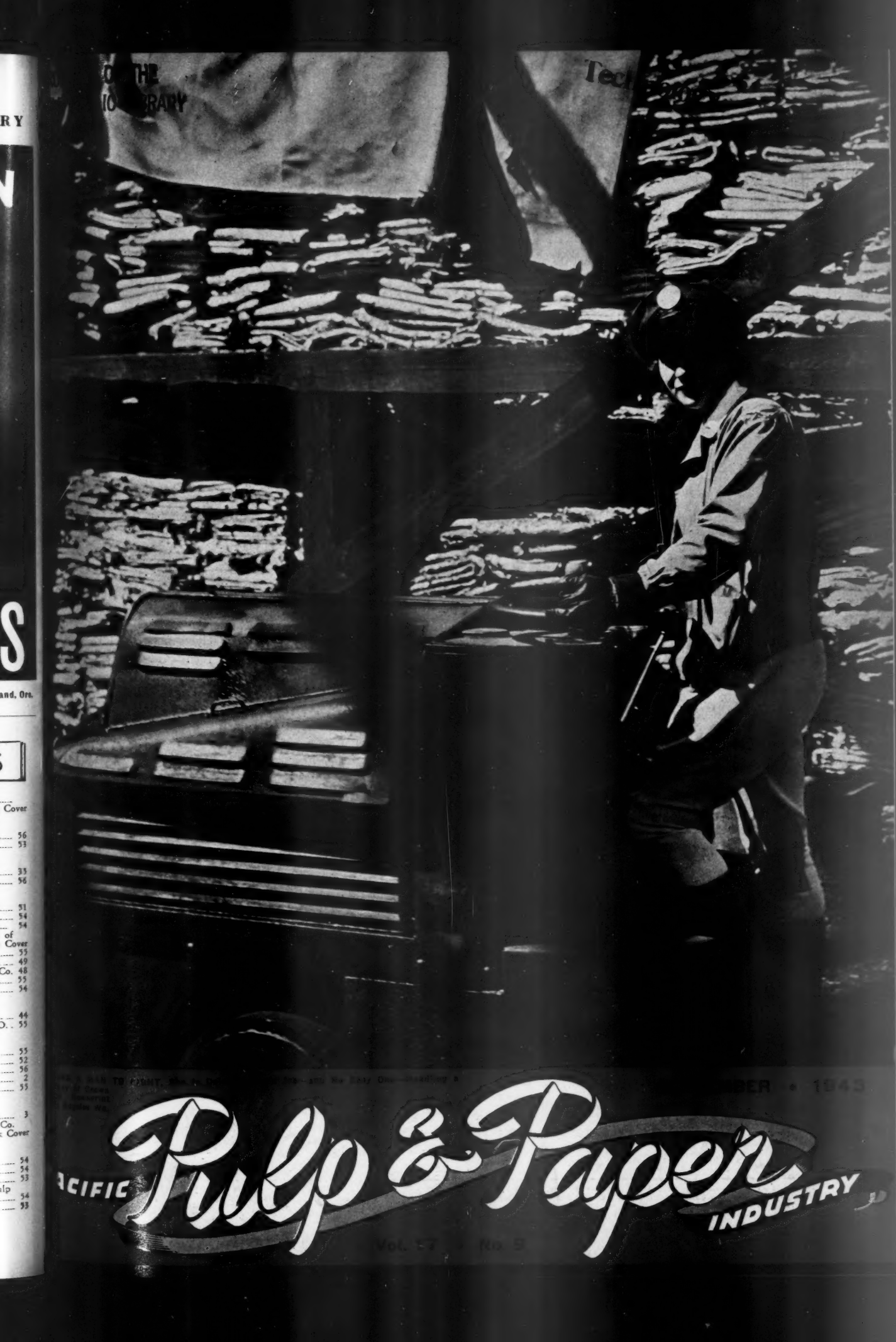
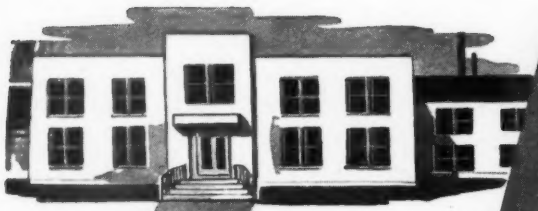


Pacific Pulp & Paper Industry



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Anyway, the Industry Is Essential Out West

(An Editorial)

"FATHERS who are not in an essential industry are going to be drafted. Fathers who are employed in our western pulp and paper mills ARE IN AN ESSENTIAL INDUSTRY. They should STAY PUT."

This statement was made to this magazine by one man who knows the score. He is Lt. Comdr. Chester J. Chastek, U. S. N., Washington State's Selective Service Occupational Advisor.

It cannot be too often emphasized that the entire pulp and paper industry of Washington and Oregon has been officially classified as an essential industry.

This was done officially a year ago in a joint proclamation of the war manpower commission, selective service and employment service chiefs of those two states.

As far as Washington state is concerned, no doubt could remain on this score after the inspiring article by Colonel Walter J. DeLong, state director of selective service, written especially for this magazine's March issue, categorically confirmed that proclamation. Colonel Elmer V. Wooton, Oregon selective service chief, concurred in this confirmation in a recent letter to the editor of this magazine.

It is well that all persons involved—the mill employes and local federal officials—keep this in mind when confusing and disconcerting statements are issued by eastern officials.

The confusion in the east seems to emanate from a policy of making the industry essential piece by piece, an entirely different approach than the forthright one of Pacific Northwest manpower agencies.

Now—throughout Canada and the United States—the drums are being beaten proclaiming the cutting of pulpwood as essential. The real noise is concerned with pulpwood for newsprint. In this issue, we carry a report of the tour of newsprint mills made by a congressional subcommittee seeking to increase production of pulpwood for newsprint.

Donald Nelson, Prentiss Brown and Paul McNutt's manpower headquarters have all joined in proclaiming pulpwood cutting as an essential activity. This magazine has received one of the biggest, fattest envelopes, chuckful of publicity matter, ever to weigh down this editorial desk. It comes from a "war activities committee of the pulpwood consuming industries"—organized by national newspapers and pulp consumers to wage this campaign.

It is only natural that the press and political leaders who want the support of the press should be aroused to action over the shortage of newsprint while not being so concerned over the grave peril in shortages of other pulp and paper products essential to the war.

But they are putting on such a grand campaign that we admiringly predict it is bound to be successful and when it is successful, the entire pulp and paper industry is going to benefit.

In an article appearing on later pages in this magazine, Representative Boren of Oklahoma, leader of the touring congressmen, says his committee wants the entire pulp and paper industry declared essential.

But Mr. Boren, like too many others in Washington has contributed to the confusion that tends to make some employes of the industry uneasy, inclined to bolt to jobs they think are more secure.

In a New York interview of August 13, sent to hundreds of newspapers by the Associated Press, Mr. Boren was quoted as saying that the War Manpower Commission has not designated pulpwood cutting as an essential occupation.

The fact is that on June 15, 1943, William Haber, one of Manpower Chief McNutt's lieutenants, informed the American Paper & Pulp Association that "the War Manpower Commission's committee on essential activities has interpreted the production of pulpwood to be encompassed within Group 7, Forestry, Logging, and Lumbering, which is included in its List and Index of Essential Activities. Copies of the List and Index have been forwarded to all United States Employment Service offices and to all War Manpower Commission area, state and regional offices for use in connection with placement and stabilization policies and programs."

Again on June 25, 1943, the same Mr. Haber of the War Manpower Commission, informed A. G. Wakeman, chief of the pulp and paper division of the War Production Board, that pulpwood cutting had been

designated as essential and that draft boards were being so advised as well as the employment services.

We might say that Congressman Boren partially redeemed himself when, in a statement made to this magazine and published elsewhere in this issue, he said: "Newsprint has been declared an essential industry in the United States."

But, in this case, it may be that he has erred on the other side. We have seen no confirmation of this statement from Washington.

Among pronouncements in the east which have added to the general confusion is an attempt to list essential and non-essential jobs. Left off the essential list were loggers and lumber and pulp and paper mill-workers. We are told the reason for this was that these jobs were only "regional" in character, a statement that can be disputed.

Midst all these confusing statements it would be well for employes in the industry in this western area to remember that their own regional manpower and draft directors have been unanimous in proclaiming the entire industry out here as essential. This goes for all of us out here, regardless of the faltering, piece-by-piece steps taken in Washington to save what is left of a dangerously curtailed industry which those officials are learning—the hard way—is of vital importance in waging a successful war.

At Long Last--A Few "E" Awards

AT least a few Army-Navy "E" awards have been made to woods' industries. The first such awards made to any companies engaged in wood production and conversion have been granted to the Weyerhaeuser Timber Company, Longview, Wash.; Consoldiated Timber Company, Glenwood, Ore., and Willamette Valley Lumber Company, Dallas, Ore.

In the lead editorial in the July issue of PACIFIC PULP & PAPER INDUSTRY, this magazine recorded the results of a series of persistent inquiries which it made to the WPB, the Army and Navy to ascertain why lumbering, pulp and paper and plywood industries, many of them engaged 100 per cent in vital war production, were ignored while "E's" were being handed out to almost every other kind of industry from textile mills to brush factories.

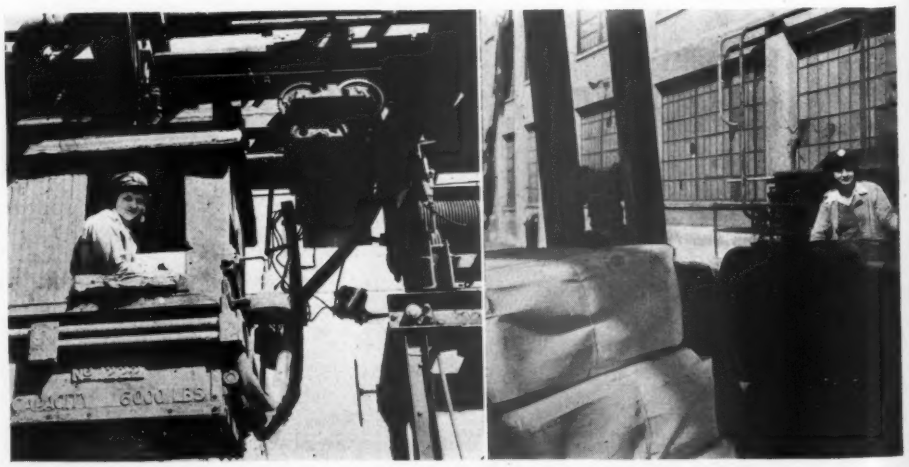
As a result of those inquiries, PACIFIC PULP & PAPER INDUSTRY was able to reveal that there was no question about the eligibility of these firms, such as the mills cutting aircraft lumber and pulp and paper mills producing the materials for smokeless powder and rayon used in tires and parachutes and those making all kinds of containers for the transport services. The machine shop program of the pulp and paper mills—with really big time production in some of the mills—also is deserving of such recognition.

This magazine also was able to reveal that the Army Award Board had granted several awards but that they were being held up by the WPB. The editorial was called to the attention of western congressmen. It was reproduced in the August issue of West Coast Lumberman, also a Miller Freeman publication.

In that editorial, we mentioned as one of these deserving industries, "the biggest producer of aircraft lumber in the world—a mill in Washington state." We may now add that we referred to the Weyerhaeuser Timber Company in Longview. And now, to that mill and to the two mills in Oregon, we extend heartiest congratulations!

If all the time and effort and money spent in the "E" award presentations is helpful to the morale of the employes thus honored, then certainly more of it should be expended on the mills in the woods industries of the West where there exists a most acute manpower crisis.

On the Cover - - -



A versatile young woman is MARGARET GILBERT, who is shown in the cover picture of this issue operating a paper jitney at the Port Angeles, Wash., newsprint mill. All in a day's work, she also operated a wood truck and a monorail crane. And as a sideline she drove a Red Cross ambulance truck which participated in the rescue of some shipwrecked sailors on the Washington Coast.

Here is another view of the Elwell-Parker truck which appears on the cover. This one shows the truck's load of wrapped paper. In another view here, Mrs. GILBERT is shown operating the Pawling & Harnischfeger monorail crane at the Port Angeles mill.

She is the first woman ever employed at this job in Port Angeles and the mill executives say it is unusual to find a woman who can handle the trucks and the crane as efficiently as she has done the job. She is the sister of Leo Lomski, the Aberdeen, Wash., pugilist, who was once a contender for the heavyweight championship. She was his manager.

Mr. Jeffers Sends Us His Views

IN our July issue of this year we noted that ex-U. S. Rubber Director William Jeffers had made what appeared to be a challenging speech at the site of the new industrial alcohol plant of the Ontario Paper Company in Thorold, Ontario.

He said this plant "presents an opportunity to put to substantial use the large quantity of by-products that flow from the wood pulp mills and lumbering operations of our two countries."

The alcohol made from waste liquor of the Thorold mill, is used in production of synthetic rubber and explosives. Pacific Coast men who have visited the Thorold plant say that undoubtedly the most improved and up-to-date method of making alcohol from waste liquor is in operation there.

We wrote directly to Mr. Jeffers to inquire as to what he meant by "an opportunity" for wood pulp mills and lumbering operations. He replied that his speech had been extemporaneous but that he would gladly answer any specific questions and we promptly responded to this generous invitation.

To seven specific questions he has sent specific replies. (Since doing so, Mr. Jeffers has resigned his Washington position, explaining that he has finished the organization job he was called upon to do. He has returned to his post as head of the Union Pacific Railroad).

In considering the following statements by him, it should be remembered that he speaks from "the rubber point-of-view." No one can predict what uses there may be for industrial alcohol. For example, if it is mixed with gasoline for motive power, all the carbohydrates in pulp mill waste in the world could not supply the market.

The fact that Mr. Jeffers took the time from one of the biggest jobs in Washington to answer our questions is appreciated. His opinions are highly regarded by almost everyone. We present his answers for exactly what they are worth:

1. Are there now sufficient sources of alcohol for use in manufacturing synthetic rubber?
The Chemicals Division of the War Production Board has advised us that there are adequate supplies of alcohol available for the synthetic rubber program.

2. Is there prospect of a market for pulp and paper mills of the Pacific Coast if they were to go into the production of alcohol as is being done at Thorold?

The prospects for a market on the Pacific Coast are probably not too good. A small amount of alcohol is consumed in the styrene operations at Los Angeles, but any large amount of alcohol for the synthetic rubber program would have to be shipped back east of the Mississippi River.

3. What of other possible uses for the 4,500 tons of waste pulp and sulphite liquor from the Pacific Coast mills?
Relative to other uses of the waste pulp and sulphite liquor, it should be pointed out that the production of alcohol does not harm it for most other uses. In making the alcohol only the one per cent of sugar is consumed but the lignin and the other waste materials which comprise the major portion are left unchanged and should be just as suitable for other uses after alcohol production.

4. Would transportation factors make it advisable for Pacific Coast mills to consider making alcohol for rubber?

See Answer to No. 2.

5. Are the costs of materials and the critical nature of materials needed for putting in alcohol plants factors weighing for—or against—this conversion and utilization of waste?
Relative to the cost of materials and the critical nature of materials needed for putting in alcohol plants, the amounts required are not large, but as long as sufficient alcohol facilities are already available it would not appear desirable to build new plants unless some factor, such as availability of raw materials, appeared to be critical.

6. What other factors are of prime importance in this regard?

Other factors in the picture relate to the fact that a considerable quantity of sulphur dioxide is recovered in the operation which tends to lower the over-all cost. One factor against the sulphite liquor plants is that they are, in general, very small, the amount of sulphite liquor being available in a given area seldom is sufficient to produce over 1,000,000 to 5,000,000 gallons of alcohol per year. Alcohol plants are more economically constructed in the range of 10,000,000 to 50,000,000 gallons per year.

7. What about postwar possibilities of using sulphite waste from the mills for producing alcohol or other by-products?

The post-war possibilities of using sulphite waste liquor for the production of alcohol are somewhat cloudy. A company has recently made an estimate for one of the mills in Puget Sound and has a production cost for alcohol around 20c a gallon. It is estimated that alcohol made from molasses or from petroleum costs 10c to 12c a gallon so that sulphite liquor alcohol would have stiff competition. However, alcohol made from grain costs of the order of 25c to 30c a gallon. For this reason it is somewhat difficult to determine the actual future price of alcohol. 20c a gallon would not place a company in a very favorable competitive position.

As Mr. Jeffers did suggest at Thorold, most forward-looking pulp mills and lumber operations of the Pacific Coast are seeking opportunities for fuller utilization of wood. And there is little doubt but that there will be important developments in this field after the war.

Searching behind the headlines, there is ground for suspicion that the Thorold enterprise had some political background as well as economic. Readers of the Chicago Tribune, which owns the Thorold mill, have been familiar for many years with the forthright Colonel McCormick's attacks on British royalty and the British government. Annoyed by these attacks on their king and their mother country, the Canadians might have found an excuse to curb newsprint production at Thorold as a wartime economy. It did not harm the Colonel's cause to have the Thorold mill producing alcohol for rubber and explosives, along with the newsprint for his newspaper. At the same time, he is making a notable contribution to the war effort of Canada and the United States.

Bought More Bonds AFTER Tax Deductions!

PORT ANGELES, WASH., DIVISION OF RAYONIER INCORPORATED CAN PROUDLY point to the fact that 10.59 per cent of its gross payroll went into war bonds in the first month after Uncle Sam's pay-as-we-go withholding tax went into effect in July. It was one of the best monthly records despite the tax—a truly remarkable achievement.

This picture was taken last winter when the Treasury T flag was awarded to this Rayonier mill for going over the 10 per cent mark. It has been over that mark for ten months, with about $13,000 going into war bonds each month from the payroll.

(Left to right—front row) MYRON A. SCOTT, Office Manager; Lt. (j.g.) CARL HUESSY, U. S. Coast Guard who was later killed in a plane crash; an Army Sergeant; WILLIAM BROWN, Blacksmith; HAROLD HUGGINS, Cook; HAROLD T. FRETZ, Chief Chemist; PETE LARSON, Powerhouse Engineer; a Naval Aviation Machinist's Mate; WILLIAM E. BREITENBACH, Resident Manager, and ROY JENSEN, Vice President of the Port Angeles First National Bank and County Campaign Chairman.

Visible back of the first row are EVERT CARLSON, Logging Department (behind Mr. Scott); GEORGE ZIMMER, Millwright (between the sergeant and Mr. Brown); FRANK DENNY, Bleacherman (between Mr. Brown and Mr. Huggins); WALTER SCRASE, Millwright (between Mr. Huggins and Mr. Fretz); WESLEY JOHNSON, Credit Union Secretary-Treasurer (between Mr. Fretz and Mr. Larson); CURT WIEMAN (between Mr. Larson and the sailor); CARL JOHNSON, Machine Shop Foreman (between the sailor and Mr. Breitenbach). At extreme right is HENRY WELLER, Tour Foreman. Looking over his head, his face only partly visible, is H. E. SHERMAN, Assistant Personnel Supervisor and Chairman of the mill's Bond Sales Campaign Committee, who had a new campaign under way this month.

The Message of Kiska

● The bloodless victory at Kiska goes down in history as the first time that American and Canadian troops combined in offensive action in the western hemisphere.

What happened at Kiska was merely a culmination of dramatic developments that have in the past two years brought the two nations closer than ever before. The stirring series of events began before Pearl Harbor —back in the anxious days when Tokyo first wooed the Axis and Canada's answer was to build air bases to Alaska, even before Canada and Japan were at war. Then followed the Alaska military highway, the pipeline from the oil field of Norman and other vast construction projects aimed at the single objective of making Pacific North America invulnerable to attack, of eliminating the threat of invasion.

In the heat and fury of war the United States and Canada have been welded together in a common purpose. When the war is won, is it too much to expect that the same elements which forged unity in war and thus gained military success will achieve a continuing co-operation in the advancement of this region in the coming years of peace? When peace returns, let us not forget the real significance of Kiska's message, which is simply this: That Canada and the United States are secure and able to pursue their course in their own way only when the approaches to this continent are adequately protected.

Pulp—In War and Peace

By LAWSON P. TURCOTTE*

"Vision of a few men assured essential wartime pulp supply ' ' ' A strong and continuous demand for pulps should exist for considerable time after the present conflict ' ' ' Denuding of European forests is a factor ' ' ' The Cellulose Age brings promise of expansion ' ' ' Preservation, perpetuation and full utilization of forest resources should be the goal of labor, industry and our governments."

THE importance of the pulp supply in the over-all war effort has finally been recognized by the highest government officials. You probably have noticed in the newspapers from Coast to Coast an intensive publicity campaign, which is supported and encouraged by government agencies to get men back in the woods to furnish the necessary raw materials in the form of logs and pulpwood to manufacture the various grades of pulp so urgently required. This action, although for many months urged by industry itself, probably comes too late to have any material effect on increased production during the balance of this year, but, if followed up, should have beneficial results in 1944.

It is estimated that unless there is a marked increase in the wood and woodpulp supply during the balance of the year, there will be a shortage of upwards of one million tons of pulp for necessary requirements. Prospects for 1944 are not even as bright unless some drastic steps are taken, not only to retain the men now working in the woods, but to augment this considerably and promptly. It is estimated that the return to the woods of 4,000 men in the States of Washington and Oregon would cure the situation, not only as far as the pulp supply is concerned, but also the all-important lumber supply.

Had it not been for the vision and tenacity of a few men in the Pacific Northwest and in the South, who, in the late twenties and early thirties built up the great pulp producing centers, a similar parallel might have been drawn between the pulp supply and the non-existant rubber production at the beginning of the war. During the late twenties and the early thirties a total of approximately six and one-half million tons of annual production was added to the United States pulp production, practically all of it in the Pacific Northwest and the South, and most of it is now being used for war purposes of one kind or another, such as explosives, rayon, cellophane, the most important item of packaging of foods and other materials for domestic and overseas shipments and many other items too numerous to mention here.

Let us just visualize for an instant that this development on the Pacific Coast and in the South had not taken place. It would then have been necessary to build a large percentage of these huge raw material and finishing plants, expending large amounts of critical war materials such as steel, copper, bronze, etc., to say nothing of the manpower requirements for such a large undertaking. As stated before it would have paralleled the establishment of the synthetic rubber industry.

These men should be remembered and thanked for their courage and vision in placing these United States in such a self-sustained position insofar as pulp requirements for war are concerned. The capacity is here to maintain this position and requires only an intelligent distribution of a comparatively small manpower requirement to keep production up to full war and essential civilian requirements. Not only is the United States pulp industry supplying the domestic needs, but it is, along with Canada, the only source of supply for many other Countries, such as Great Britain, India, Australia, New Zealand, South Africa. Pulp is also supplied to Mexico, all of the South American Countries, with the exception of Argentina who so far have been able to secure their requirements from Sweden via the safe conduct agreements for Swedish boats to Argentina. Although much greater quantities could be consumed by these other Nations it is a matter of rationing of a scarce article and it can be said that the Pulp and Paper Branch of the War Production Board have conducted this allocation of pulp to foreign fields in a capable and conscientious manner.

The machine shops of all of the plants in the Pacific Northwest, and as a matter of fact all over the United States, are doing a tremendous job in turning out war material, in addition to keeping their own plants up to the highest possible efficiency. Some pulp plants are converting from their pulp logs, lumber in demand for aircraft manufacturing. (The Bellingham plant of Puget Sound Pulp and Timber Company is taking a leading part in all of these war activities.)

So much for the past and present of the Pulp Industry in the Pacific Northwest.

The Future of the Industry

● Endeavoring to look into the future of the pulp industry and its possible development is something else and depends upon so many things beyond the control of industry itself that it is extremely hazardous to prophesy to any degree. Some facts which would however be an indicator are sufficiently well known to be able to predict that a strong and continuous demand for pulps of all grades should be a fact for some considerable time after the ending of the present conflict. One is the fact that the paper industry in all of the warring nations is operating at a very low degree of capacity. A sudden upturn in paper production in these countries will of necessity require large tonnages of pulp. Inventories will be practically non-existant and will have to be built up.

Another factor which should tend for a greater demand than supply for some time to come is the denuding of the forests of Europe during the present conflict, the destruction of some operating units in Finland and possible destruction of others in other pulp-producing centers. The wood situation in Sweden and Finland would be another determining factor. No new additions to production have been made for the past few years while consumption of paper and other products made from pulp is continuously on the increase.

As all nations settle down to normal peace-time conditions and get back into production of peace-time products, there will again appear competition for the most lucrative markets and when this time arrives in-

*Executive Vice President and Director, Puget Sound Pulp & Timber Company. Talk at Bellingham Rotary Club, August 30, 1943.

dustry, particularly in the Pacific Northwest, must be prepared to meet this competition. The manner in which we, on the Pacific Coast are able to meet such competition, will not depend on industry alone. It will also become a political question. In other words, if governmental policies are such as to discourage development, then it is foolish to expect any great migration to this area. No great expansion can be expected unless there is an incentive to enter into new ventures. Therefore it is my opinion that development of the Pacific Northwest does not lie alone in the hands of industry, but it must be a cooperative effort by industry, labor and government, the latter to furnish only such sound legislation and protection that may be required to make this development a fact instead of a mere hope. Private enterprise is quite capable of the financing and developing of such projects, but it must, if it is going to re-employ the returning soldiers and others now working in war industries, have the whole-hearted cooperation and legislative support of its government. Postwar problems are many. Already plans for currency stabilization have been advanced by Great Britain and the United States. All of you will remember what disastrous effect the devaluation of foreign currencies had on industry, particularly in the Pacific Northwest only a short time back. It affected all of the principal products of this part of the United States, lumber, pulp, fish, shingles, dairy products and created a state of near-chaos in these industries. Already some countries, whose business is chiefly in the export field, are questioning the currency stablization plans already advanced.

This is only one of the items that comes under legislative authority. There are others and these are the problems that I refer to that must receive the careful consideration of our government, so that full employment opportunities may be available to men returning to industry after the war.

The Cellulose Age

Under the heading of new uses for forest products, the present war years will probably be known as the "Cellulose Age." This is particularly true in Sweden where, through necessity, various new products have been developed from Pulp and Pulp products. To name a few:

Cars and small boats are being run by fuel generated by the producer-gas system.

Clothing consists of about 50 per cent cellulose substance.

Cellulose is being fed to cattle with excellent results by being mixed with the regular fodder.

Cellulose beef (a form of albumen yeast) is being served in restaurants.

Motor fuel and lubricants are distilled from wood.

A rubber is being extracted from wood.

Diapers, bandages and blankets are being made from cellulose.

Even a brand of Sweden's favorite drink, aquavit, is being made from an alcohol extracted from wood.

Just how many of these products just mentioned will survive in postwar economy it is difficult to forecast, but should only a few of them continue it means a great advance and indicates uses for future generations when some of the other basic raw materials are used up.

Our country, although it has been concentrating on war output and with the building up of its huge army, navy and air force, has made outstanding technical and actual manufacturing advances in the uses of pulp itself, pulp wastes and wood.

Scientists, seeking to replace raw materials made scarce by war, have found that they can, through new processes and operations, make wood and wood wastes over into many kinds of materials which you might not readily recognize as being derived from our forests.

About two-thirds of all wood is cellulose, the other third is called lignin, which is a binder and holds the cellulose cells together. You will hear much of these two substances in the future, for it is from them that many of the new products are made. Wood cellulose, when treated with different chemicals, is changed into many products other than paper, such as gunpowder, photographic film, alcohol, rayon, cellophane, imitation leather, lacquers, glycerine, plastics, felt, sugar, mollasses, yeast and food proteins.

Although the cellulose portion of the wood has been developed to a great degree, the remaining one-third of the wood or lignin is still somewhat of a mystery. Not needed for pulp or paper making, there have been up to now few uses for lignin. Now it is being saved for use in tanning leather, as a binder in mixing concrete, as a water softener, and other varieties of uses. Vanillin, which is used in the flavoring of ice cream, can be made from lignin. It can also be used as a base for fertilizer.

However, concentrated research of this waste product was intensified soon after the beginning of this war and it was found that lignin could be used in the manufacture of plastics which are being used for bomb fuses and shell cases, and in instrument panels for airplanes, ships and tanks. It is also used in the cases of storage batteries. Plastics came into wide use when other important metals were taken from civilian use and put to war work. Further intensified research is being carried out steadily at the laboratories of the pulp and paper plants and also at the University of Washington.

American industry is ready to go ahead and perpetuate these new products and any other new discoveries into the American standards of living, but to do so it must have the incentive and the knowledge that these products can compete successfully with foreign products. Much of the decision rests with the manner in which world currencies are managed, what our foreign trade policies are, all of which are beyond the control of industry. Our representatives in Congress should be afforded the opportunity of making a thorough study of such policies before they are put into effect.

It is right and proper that all plans for war should be kept in secrecy, but there should be no secrecy about postwar planning in so far as it may affect the employment and standards of living of the American people.

In conclusion I would remind you that our forests and forest products are this state's biggest asset and will remain so for a long time to come. The preservation, perpetuation and full utilization of these resources should be the goal of labor, industry and our governments.

Campbell Commissioned

Ivan Campbell, former instrument supervisor at the Puget Sound Pulp & Timber Company, received his active commission in the U. S. Navy as a deck officer (ensign grade) from the indoctrination school at Cornell University, Ithaca, N. Y., on August 14.

Fibreboard Man Is Pilot

Lieut. Richard Fisher, on leave from the Stockton, Calif., division of Fibre board Products Inc., has been graduated as a pilot from the Waco, Texas, army flying school. He was assigned to duty at Moses Lake, Wash.

Intriguing Figure

A postoffice authority told a representative of this magazine that it takes 275 paper or paperboard shipping containers to keep each American or Canadian soldier overseas supplied for one year.

Drs. Grondal and Friedman Talk at TAPPI Meeting October 5

Outstanding advocates of closer utilization of forest resources will lead discussion of "Recent Advances in Wood Technology" ' ' ' Famous cooks of Camas town will put on the dinner and past performances indicate it should be a good one.

● During the next eight months there are going to be only two opportunities for Pacific Coast TAPPI members and their friends to get together.

One of these will be on the evening of Tuesday, October 5 at Camas, Wash., and the other on Tuesday, February 1 at Everett, Wash. These are going to be the only two dinner meetings of the 1943-4 season. In normal times these meetings were monthly events through fall, winter and spring.

"Recent Advances in Wood Technology" is the timely and highly important subject chosen for the Camas meeting. Speakers on this subject will be Dr. Bror L. Grondal, professor of forest products, College of Forestry, University of Washington, and Dr. Leo Friedman, assistant professor of chemistry, Oregon State College. Others will be invited to join the discussion.

These two men are well known as outstanding advocates of complete utilization of our forest resources, which has become perhaps the most important objective of progressive logging, lumbering, plywood and pulp and paper industries of the Pacific Coast, owing to rising costs and growing scarcity of resources.

Professor Grondal has made studies in logging waste and its potential value in pulp manufacture. Dr. Friedman has done considerable work on the hydrogenation of sulphonated lignin.

The dinner in Camas will be held at the high school cafeteria in Nora Self Hall at 14th and Garfield at 6:30 p.m. The Parent-Teachers Association, already justly famous in those parts for the excellent dinners they have put on even under wartime restrictions, has agreed to prepare and serve the food.

Clarence A. Enghouse, assistant resident manager of the Crown Zellerbach mill at West Linn, Ore., who is chairman of the Pacific Section of TAPPI, will preside. The program was arranged by the vice chairman, Erik Ekholm, general superintendent, Puget Sound Pulp & Timber Company, Bellingham, Wash.

R. G. Jaffe, central technical department, Crown Zellerbach Corporation, Camas, Wash., has charge of arrangements and dinner reservations.

The secretary-treasurer, Robert M. True, General Dyestuff Corp., Portland, Ore., sent out notices of the meeting and urged that return reservation cards be sent in as early as possible, owing to difficulties in obtaining supplies for the dinner.

There will be no overnight accommodations, since the Inn at Camas is filled with war workers, but these may be made in Portland hotels and there should be no difficulty in obtaining transportation to Portland after the meeting. Quite a number driving from Portland, West Linn and Oregon City will be asked at the meeting to take back riders to Portland.

The Shibley Award for the best paper prepared during the year by men actively working in the west coast industry is again to be presented this year. Anyone preparing a paper for this contest should send the title and a brief resume as soon as possible to Mr. Ekholm in Bellingham. When completed papers are submitted to him they should be in quadruplicate.

TAPPI-Sponsored Sessions In Chicago Draw Interest

● On the Pacific Coast, both superintendents and technical men in the industry expressed interest in the TAPPI-sponsored Army and Navy Paper Requirements Conference at the Palmer House, Chicago, September 21 to 24. Interest of many of them was chiefly centered in the water vapor permeability testing session and discussions which were to occupy the whole afternoon of the third day, September 23.

According to Pacific Coast TAPPI members who have followed the developments in this field closely, considerable refinement is desired for the tests for water vapor permeability which are already being used. A principal objective, they said, is a test that can be made in the shortest time possible—a few days or even a limited number of hours.

The tests are important to determine how well packaging materials will stand up in export shipments to the armed forces in distant climes. With much wider use of paper products expected as a result of dehydrating processes of foods for overseas shipment, containers are desired that are proof against any vapor transmission.

The entire program of this TAPPI-sponsored session was approved by the army and navy authorities and those services were actively particiating. At the time of going to press it was not known whether any Pacific Coast industry men would be able to attend but those in the packaging field, especially, were expected to follow reports of the meeting closely. These will be published in the October issue of PACIFIC PULP & PAPER INDUSTRY.

The entire morning of the first day was to be devoted to the presentation of papers covering various packing and packaging problems of the navy. The requirements of the army were to be covered in the afternoon session of the first day.

Important group meetings scheduled for the second day included an ordnance packaging session, a coating round table, an acid pulping round table, an army-navy and WPB session, a papermaking round table, an alkaline pulping round table and a general session. In addition, during the morning and afternoon, groups not exceeding fifty were to inspect operations in the printing plants of R. R. Donnelley and Sons and W. F. Hall Printing Company. A number of important papers were scheduled for a general session in the morning of the third day.

During the conference, the army and navy were to exhibit important paper products used for war purposes. About 10,000 square feet of the Palmer House Exhibition Hall will be given over to this exhibition.

Herman Simpson Joins Western Gear

Herman Simpson, for the past year general manager of the Sorg Pulp Company's operations in British Columbia, has associated himself with the Western Gear Works, Seattle, and will be working exclusively on a special assignment, reporting directly to Thomas J. Bannon, the executive vice president of the company.

Before joining Sorg, Mr. Simpson spent 15 years at Port Townsend, Wash., with the Crown Zellerbach Corporation.

Mr. and Mrs. Simpson have moved to a new home on Magnolia Bluff, Seattle.

TAPPI DINNER MEETING

Pacific Section

THE PLACE—Nora Self Hall, 14th and Garfield, Camas, Wash.
THE DAY—Tuesday, October 5.
THE TIME—Six thirty p. m.
THE SUBJECT—Recent Advances in Wood Technology.
THE CHIEF SPEAKERS—Prof. Bror L. Grondal, U. of W., and Asst. Prof. Leo Friedman, OSC.
RESERVATIONS—By R. G. Jaffe, Central Technical Lab. Dept., Crown Zellerbach Corp., Camas.
WORD TO THE WISE—Make hotel reservation in Portland—none available in Camas. Those with cars will be asked to take passengers to Portland.

PASC Plans Campaign To Win Industry Converts

Bob Baum's committee proposes to sponsor tours of high school students through the mills and to conduct essay contests as means of encouraging youngsters to find their life work in industry ✓ ✓ ✓ Plan approved at PASC meeting in Los Angeles August 19 ✓ ✓ ✓ George Zenick ribs papermakers in witty speech; U. S. Marine tells war experiences.

THE August dinner meeting of the Papermakers & Associates of Southern California, held at the Rosslyn hotel, Los Angeles, August 19, was unusual in several ways. Nearly 40 members and guests present were unanimous in agreement with Chairman W. A. Kinney, production manager, Pioneer Division, The Flintkote Company, on that.

If the spotlight fell first on Mrs. E. E. Harper, rather than on George Zenick, Sr., principal speaker, or Corporal I. Powers, U.S.M.C., a Guadalcanal hero, it was because Mrs. Harper was the first woman ever to attend a PASC business meeting. She is the wife of one of the members, E. E. Harper, consulting engineer, Omega Machine Company, who accompanied her.

The unusualness of the meeting was continued when Mr. Zenick superintendent of the Flintkote Company's printing department, began his talk, "Tagging Along with the Papermakers." It is safe to say the dignity of papermaking in all its phases was never so ruthlessly torn to shreds than when the speaker had concluded his humorous and witty address.

The audience roared with laughter as Mr. Zenick, whose wit was as sharp as a two-edged sword, waded into the industry's shortcomings. Probably it had seldom, if ever, listened to such indictments, but it was all in fun and later provoked a lively discussion, with Otto Sass, The Flintkote Company, who is program chairman; Frank H. Wheelock, Fibreboard Products Inc.; George M. Cunningham, National Oil Products Company, and Archie Schwartz, California Ink Company, leading the attack on Zenick, who parried every thrust with skill.

In the opinion of all present it will be long before this organization will find another speaker within its own industry, to duplicate the one Mr. Sass presented as the initial offering of his term as program organizer.

Then the evening's mood changed to the deadly serious: "Jungle Warfare in the South Pacific," as told by Corporal Powers, who hit the beach from a landing boat at Guadalcanal, Aug. 7, 1942, in the first wave of attack which captured Henderson Field a few hours later.

Powers had the exceptional ability to tell his story in gripping style and, following his talk, answered a flood of questions fired at him.

Adds 14 New Members

Chairman Kinney reported that the association now has 46 paid-up members, and, during August, took in 14 new ones, due to the work of Chairman George Cunningham and his membership committee.

AT PAPERMAKERS & ASSOCIATES OF SOUTHERN CALIFORNIA meeting (August 19) in Los Angeles, OTTO SASS (above) of Pioneer Division, Flintkote Company, the program chairman, congratulates Marine Corporal I. POWERS on his speech.

MRS. E. E. HARPER, shown below with her husband, consulting engineer of the Omega Machine Company, was the first woman ever to attend a business meeting of PASC.

He spoke too, of an executive committee meeting held at Pomona when the 1943-4 policies and activity of PASC were decided upon. Among these was a decision to hereafter omit the giving of door prizes, placing the emphasis for large attendance at monthly meetings on the drawing power of speakers and interesting subjects.

An educational activity with considerable promise was also launched at the board meeting, and this was ratified by the membership, on motion of Robert A. Baum, assistant chief chemist, Fernstrom Paper Mills, Inc., who is the educational committee chairman.

Looking to the future, Mr. Baum's plan is based on interesting the younger generation in making the pulp and paper industry their life work. Although, he pointed out, most of the young men are now in the armed services, there are many in high school and to these the campaign of education should be directed.

His committee had therefore worked out the tentative details to sponsor groups of boys through mills and plants, and then to offer prizes for best essays submitted afterward. It was believed the cooperation of industry executives would be forthcoming, and perhaps they might even sponsor the prizes. This latter suggestion was made by Vice-Chairman Wheelock.

John Van Ounsem, technical director, Flintkote Company, PASC's new secretary-treasurer was present, and he was assisted by Bruce F. Brown, Jr., chief chemist, Vernon Division, Fibreboard Products Inc. Seated with Kinney at the speakers' table was last year's PASC chairman, Charles G. Frampton, superintendent, Fernstrom Paper Mills, Inc. Attending the dinner were:

Attendance

Pioneer Division, Flintkote Company: **William Beeleman, Grover Brown, Robert E. Cooper,** W. A.

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Kinney, Robert P. Wagner, Otto Sass, John Van Ounsem, Glenn Phillips, Ernest Dutcher, George Zenick, Sr., G. E. Emigh, P. D. Waples and Frank Dilly.

Fibreboard Products Inc.: Bruce F. Brown, Jr., J. J. Eichal, Frank H. Wheelock, G. Eberhard.

Fernstrom Paper Mills Inc.: Richard Buckley, Robert A. Baum, C. G. Frampton.

California - Oregon Paper Mills: J. K. Hays, A. Hatch, V. P. Cole.

The Dicalite Company: A. R. Bollert, G. G. Halvorson, Jill Jamesson.

M. E. Campbell, U. S. Gypsum Company; J. D. Howell, L. H. Butcher Company, Mr. and Mrs. E. E. Harper, Omega Machine Company; Archie Schwartz, California Ink Company; Ernie Kertz, J. W. Bolton & Sons; George N. Cunningham, National Oil Products, Francis L. Mark, Western Asphalt Ass'n.; John Herbert, Blue Diamond Corp.; G. F. Rucher, Leeds & Northrup Company; L. K. Smith and Arthur W. Ponsford, PACIFIC PULP & PAPER INDUSTRY.

American P. & P. Association Proposes Plan to Ease Crisis

● An action program for the paper and pulp industry has been outlined by E. W. Tinker, executive secretary of the American Paper and Pulp Association.

"Unless immediate and effective steps are taken the economy of the United States will be gravely affected by a drastic shortage of paper," he states.

Receipts of pulpwood during the first six months of 1943 were 24 per cent (2,100,000 cords) or less, than for the same period in 1942. Mill inventories of wood declined by 32 per cent (1,100,000 cords) during this period. By the end of June unfilled orders for paper and paperboard had reached nearly 1,200,000 tons.

Wood pulp production during the first six months of 1943 amounted to 4,550,000 tons compared with 5,521,000 tons in the first six months of 1942. This represents a falling off in wood pulp production of almost 1,000,000 tons or a decrease of 17.5 per cent. Inventories of wood pulp now stand at the lowest point of record.

"In the Pacific Northwest," said Mr. Tinker, "the great market pulp mills are either idle or operating at low production rates that permit them to hold an operating crew only with difficulty. In the meantime, the mills dependent upon purchased pulp face economic annihilation and the nation faces a paper shortage that will stagger the war and civilian economy."

The industry, he announced, makes these proposals:

1. The situation with respect to pulpwood is so acute that the War Manpower Commission is fully justified in placing woods labor cutting pulpwood on the same basis as agricultural labor. This will require a uniform and coordinated program directed to all employment offices and draft boards.

2. Office of Price Administration action on price questions affecting pulpwood production should be immediate and with due consideration to the effect upon production. Action by the Office of Price Administration should be coordinated with objectives of the War Production Board. Coordination of policy and action between the lumber and the pulp and paper divisions of both OPA and WPB is essential.

3. Industry recommendations looking to conservation of fibre should be approved at once.

4. Usable labor obtained from new sources such as prisoners of war, imported labor and evacuees eligible for relocation should be made available where conditions permit their use, and forestry battalions of the U. S. Army should immediately be formed and established. The situation justifies the transfer of experienced wood cutters from other industries and, in addition, furloughs from the Army of this class of labor should be provided.

5. Action to encourage increased forest products production implemented by the appropriation of $1,000,000 for this purpose by the Congress should stress pulpwood production.

6. Every necessary step to facilitate the importation of pulpwood, particularly from Russia, should be taken.

Regarding the Pacific Northwest, he said, these additional proposals were made:

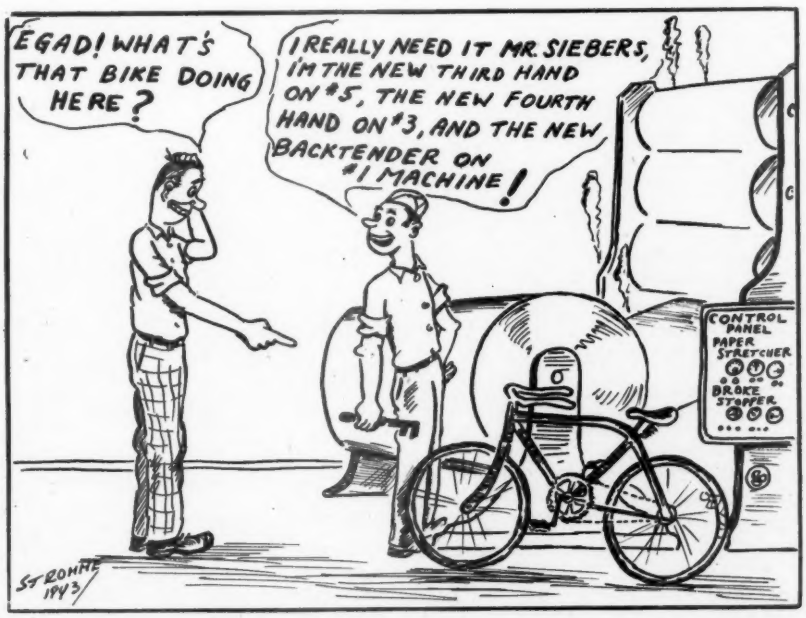
1. Increased log production must be obtained. This means that skilled woods workers must be returned to the woods where their skills can be applied to the maximum contribution in our national economy.

2. In the allocation of logs provision must be made for sufficient supplies to operate existing pulp mills. Species customarily used for pulp production are not normally in economic competition with other uses. These logs should be returned to their highest economic use.

3. There should be established a parity basis between British Columbia pulp mills and American mills. The log supply available to both should be considered a pool and allocated to maintain maximum pulp production.

Ostenson In Canada

● Gus Ostenson, paper mill superintendent of the Camas, Wash., plant of the Crown Zellerbach Corporation, vacationed at Savery Island on the British Columbia Coast for more than a week in August and at the end of his vacation journeyed to the Ocean Falls, B. C., mill of the Pacific Mills, Ltd., Crown Zellerbach subsidiary, on business.


EGAD! WHAT'S THAT BIKE DOING HERE?
I REALLY NEED IT MR. SIEBERS, I'M THE NEW THIRD HAND ON #5, THE NEW FOURTH HAND ON #3, AND THE NEW BACKTENDER ON #1 MACHINE!
CONTROL PANEL
PAPER STRETCHER
BROKE STOPPER
SGT ROMME 1943

WITH THE MANPOWER SHORTAGE WHAT IT IS, there are a lot of pulp and paper mill managers and superintendents who might introduce bicycles to transport their men from job to job.

The man on the left bears only the slightest resemblance to TONY SEIBERS, Paper Mill Superintendent at Longview Fibre Company, Longview, Wash. The artist is PEER STROMME, a former Bellingham, Wash., man who is assistant to L. C. PEABODY, Secretary-Treasurer of Longview Fibre Company in the San Francisco office.

Testimonial Dinners Honor A. G. Armbruster and Thomas H. Beaune

● Fellow employes and associates of two pioneer mill superintendents of the Pacific Coast honored those gentlemen recently at testimonial dinners on the occasion of their being awarded paid-up life memberships in the American Pulp & Paper Mill Superintendents Association.

The men thus honored were G. J. Armbruster, general superintendent, Soundview Pulp Company, Everett, Wash., and Thomas H. Beaune, sulphite mill superintendent, Port Angeles, Wash., Division, Fibreboard Products Inc. As reported in our July issue, they were voted life memberships at the June 14 meeting of the Board of Trustees of the association in New York City.

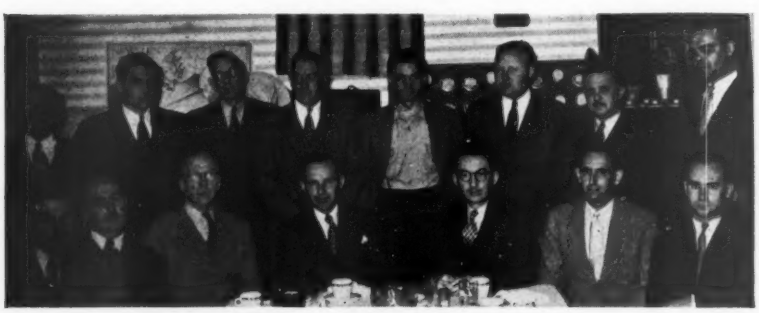
As highest ranking officer of the association in the Pacific Northwest, Sam A. Salmonson, assistant superintendent at Soundview and the first vice chairman of the Pacific Division of the AP&PMSA, formally presented framed and glass-protected certificates of life membership to the two veteran mill men.

In order to provide appropriate settings for these ceremonies, Fibreboard was host at a dinner in Goneis' Restaurant, Port Angeles, for Mr. Beaune on August 25 and Soundview sponsored a similar event at the Monte Cristo in Everett, September 2. Both were modest affairs, in keeping with the times, but nonetheless sincere demonstrations of the high regard for which the two honored gentlemen are held by their associates.

THIS GROUP OF HIS ASSOCIATES AND FRIENDS attended the dinner in his honor when G. J. ARMBRUSTER, General Superintendent, Soundview Pulp Company, Everett, Wash., was given a life membership in the national superintendents organization on September 1.

Front row, left to right: DON GRANT, Assistant Superintendent at Soundview; ALBERT S. QUINN, Secretary-Treasurer of the Pacific Coast Division of the superintendents organization and Vice President of Stebbins Engineering Corporation; LEO S. BURDON, General Manager of Soundview; Mr. ARMBRUSTER; S. A. SALMONSON, First Vice Chairman of the Coast Division of the AP&PMSA and Assistant General Superintendent; CHARLES SHIVELY, Power Plant Engineer, and JOSEPH O'BRIEN, Shift Superintendent.

Back row, left to right: JAMES HODSON, Chief Electrician; WALTER SALMONSON, Representative of Simonds Worden White Company; J. M. McCARTHY, Resident Engineer of Soundview; PETER ANDERSON, Machine Room; HAROLD STODDARD, Traffic Manager; N. W. COSTER, Technical Director; JOHN CARLSON, Assistant Superintendent; DONALD H. MATHESON, Mill Stores Department; JOHN MOAK, Master Mechanic; FRED ARMBRUSTER, son of the honored guest and Representative of Dow Chemical Company; GEORGE TOSTEVIN, Chief Accountant of Soundview; WILLIAM GORBUTT, Personnel Director; and NORMAN HEGLUND, Sawmill Foreman.



A FIBREBOARD SURPRISE DINNER PARTY in Goneis' Restaurant, Port Angeles, August 25, was given for THOMAS H. BEAUNE, Sulphite Mill Superintendent at the Fibreboard plant there, when he received his life membership certificate in the American Pulp & Paper Mill Superintendents Association.

The above group attended the dinner. Seated (left to right): BERT ADAMS, Yard Foreman; J. W. BONNAR, Chief Engineer; MR. BEAUNE; SAM A. SALMONSON, Everett, Wash., First Vice Chairman of the Superintendents Association's Pacific Coast Division; C. V. BASOM, Resident Manager of the Fibreboard mill; NELSON HARTNAGEL, Assistant Resident Manager and Chief Chemist, and H. O. HOLCOMB, Assistant Chemist.

Standing (left to right): A. F. BENSON, Master Mechanic; R. A. LAWRENCE, Personnel Manager; H. V. MORRISS, Assistant Office Manager; G. L. ADAMS, Traffic Manager; E. J. CAVANAUGH, Resident Engineer; WALTER SALMONSON, of Everett; CHARLES F. MEAGHER, Board Mill Superintendent, and ALBERT S. QUINN, of Seattle, Pacific Coast Secretary-Treasurer, Superintendents Association.

Each certificate carried the statement that the Board of Trustees of the AP&PMSA declares that the recipient is made a life member "in commemoration of the many years of faithful and efficient service which he has devoted to the paper industry and to this organization." Each carried the signatures of Grover Keeth, who recently ended his term as president of the association, and Robert L. Eminger, secretary.

Surprise For Tom Beaune

By a fortunate circumstance, the Port Angeles affair was a complete surprise to Mr. Beaune right up to the moment he sat down to the table.

C. V. Basom, resident manager of the Fibreboard plant, led off the speakers by explaining to Mr. Beaune that he was not attending a Pivot Club dinner. Pivot dinners are held periodically by the Fibreboard superintendents, foremen and lead men at the same place and it was natural for Mr. Beaune to have come with that idea in mind.

Mr. Salmonson then made the presentation. Describing Mr. Beaune as "one of the oldest sulphite superintendents on the coast," he said the association wanted to honor him "for his long service." The Coast Vice Chairman recalled that he met Mr. Beaune for the first time when he was at Swanson's Bay, B. C., in charge of the old sulphite mill there. He recalled that Mr. Beaune had served at Camas, Lebanan, Ocean Falls and West Linn and added: "I even found he was well known back in New York."

It was clear to all that Mr. Beaune was deeply moved by the tribute when he made a brief speech of response.

"It is the greatest thing I have ever had given to me and I want to thank you all," he said.

"I don't see how you could have got this thing out so quick," said Mr. Beaune. "When I saw Al Quinn this afternoon at the mill, I asked him when I was going to get this certificate and he made me think it was going to be quite a while yet."

Albert S. Quinn, vice president of Stebbins Engineering Corporation, Seattle, and secretary-treasurer of the Pacific Division of the superintendents' association, was the next speaker. He said when he came west in 1930 for Stebbins, Mr. Beaune had "the Indian sign on me." This was a good-humored reference to Mr. Beaune's many years with Stebbins, dating back to 1894.

This led to reminiscing by several of those present. It was agreed that Mr. Beaune had served longer as a sulphite superintendent than any present day mill man on the coast. He talked of his first post in the west as sulphite superintendent at the old Crown Zellerbach mill in Floriston, Calif., and his experiences in nearby Reno, Nev., then a wild and woolly frontier town. He also recalled "the days of lead lining of digesters" and how the first brick-lined digester was installed for the Hinckley Fibre Company in New York about 30 years ago.

A Man of Few Words

The Everett event was one of those unexpected things for Mr. Armbruster, too. It wasn't a good bet that he could be persuaded to make a speech, but he did. Typical of a man of action and few words, it was a short one.

In his capacity as secretary-treasurer of the coast group, Mr. Quinn started off the proceedings by expressing appreciation to the Soundview Company and he then introduced Mr. Salmonson.

"This is one of the highest honors that can be bestowed on a member of the association," Mr. Salmonson said in presenting the award. He recalled his first associations with Mr. Armbruster at the Lincoln Paper Company in Ontario in 1917, when the latter was the superintendent there.

"Mr. Armbruster joined the association in its infancy," he said. "It would take too long here to recount all the good work he has done, including the starting up of this mill in Everett which today is considered the largest unbleached sulphite pulp mill in the world."

In his response, Mr. Armbruster said the honor was as much for his men in the mill as for himself.

"If the men of Soundview had not cooperated with me," he declared, "I would not be receiving this honor tonight."

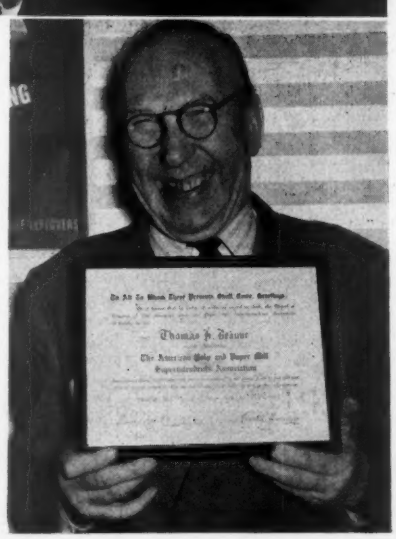
Leo S. Burdon, general manager of the Soundview Pulp Company, said when he arrived in Everett on December 28, 1934, his first personal contact was with Mr. Armbruster. He jokingly recalled being left on a long watch at the mill by Mr. Armbruster when they first met. He praised the general superintendent highly and expressed the hope that his tenure at Soundview would be a long one, for, he said, "we need his counsel and his guidance."

Joining in reminiscences with the others present, Mr. Burdon said that when he was 15 years old he carried water on the construction job of one of the old Oregon City mill dams and later got an 85-cent-a-day job in the cutter room.

Russell J. LeRoux, manager, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash., made a brief talk in which he recalled that his father, O. L. LeRoux, now manager of the Brainerd, Minn., mill of the Northwest Paper Company, was an old friend of Mr. Armbruster's and mentioned how many persons in all parts of the country have had acquaintanceship with him.

John Carlson, assistant superintendent at Soundview, described Mr. Armbruster's career as typical of what an individual can accomplish in the United States no matter where he starts from, if he makes the most of opportunity.

J. H. McCarthy, resident engineer, expressed sentiments of many others in the Soundview organization in appreciation of long association with the general superintendent.



PRESENTATION OF LIFE MEMBERSHIP in American Pulp & Paper Mill Superinendents Association to THOMAS H. BEAUNE, Sulphite Superintendent, Fibreboard Products Inc., Port Angeles, Wash., on August 25. Left to right: A. S. QUINN, Secretary, Pacific Coast Division, APPMSA; Mr. BEAUNE; S. A. SALMONSON, First Vice Chairman Pacific Coast Division, APPMSA, who made the presentation, and C. V. BASOM, Resident Manager of Fibreboard at Port Angeles.

WAS THE GUEST OF HONOR HAPPY? Regardez a droite. The framed certificate he holds says "To all ye, etc." that Mr. BEAUNE was declared a life member 'in commemoration of the many years of faithful and efficient service which he devoted to the industry and this the organization."

Histories of the two Pacific Coast superintendents who were given life memberships in the AP&PMSA follow:

THOMAS H. BEAUNE

Started work in a pulp mill at age of 14 and on September 12, 1894, when 17, started work for H. W. Stebbins, building the sulphite mill at Hinckley, N. Y.; when the mill started, helped in acid room, was the first screen tender and was cooking before becoming 18.

March, 1896 — Went with Stebbins again and helped start mill at Balleston, N. Y.; cooked here till May, 1897, when he went to Pyrites, N. Y., as cook. November, 1898—Went to Sault Ste. Marie, Ont., to "learn about the first pulp dryer on the continent," and returned to Pyrites a year later.

March 10, 1900—Finished building and ran the Floriston, Calif., mill "without a single man who had ever seen a mill before"; three years later went to Oregon City, Camas, Wash., Warrendale, Wash., and then Ocean Falls, B. C., where he started sulphite mill; then started and operated pulp mill at Washington Pulp & Paper Corp., Port Angeles, Wash.

June 7, 1922—Took present job as sulphite mill superintendent at Port Angeles, Wash., division of Fibreboard Products Inc.

G. J. ARMBRUSTER

Born in Stuttgart, Germany, he came to this country in 1890 at the ripe age of nine. Five years later was working in a pulp mill at Palmer Falls, N. Y. Enlisted in the U. S. Army when under age and served in Cuba and the Philippines in the Spanish-American War, rising in the ranks from messenger and bugler to sergeant.

About four years later, at the age of 21, returned to the paper industry. Worked in Nekoosa Edwards Paper Company, Nekoosa, Wis.—the famous training ground of many superintendents—until 1912, working as acid maker, etc., and winding up as cook. Married at Nekoosa.

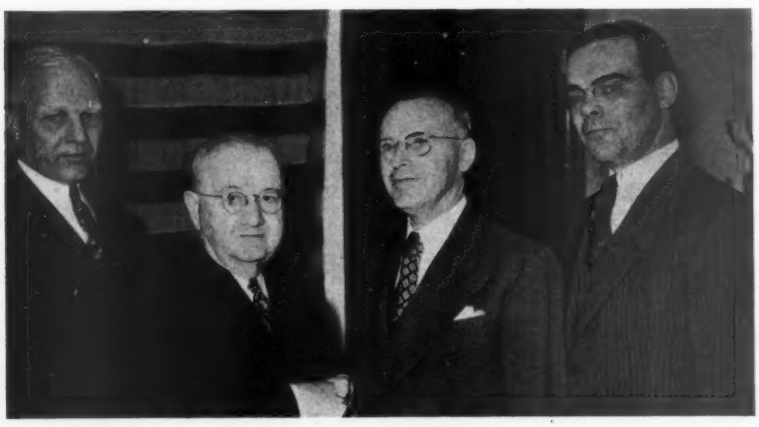
1912 to 1916—At mills in Steubenville, O.; Carthage, N. Y., and Richmond, W. Va.

1916 to 1921—Superintendent of Lincoln Paper Mills at Merritton, Ont.

1921 to 1929—Sulphite Superintendent of Fraser Companies, Ltd., Edmundston, New Brunswick.

1929 to 1930—Superintendent at Restigouche Company, Ltd., Atholville, New Brunswick.

1930 to date—General superintendent of the Soundview Pulp Company, formerly the Everett mill of Puget Sound Pulp & Timber Company.



AT THE TESTIMONIAL DINNER HONORING G. J. ARMBRUSTER, General Superintendent of the Soundview Pulp Company, Everett, Wash., September 1. Left to right: LEO S. BURDON, General Manager of the Soundview company; Mr. ARMBRUSTER; SAM A. SALMONSON, Assistant Superintendent at the mill and the First Vice Chairman of the Pacific Coast Division of the American Pulp and Paper Mill Superintendents Association, and ALBERT S. QUINN, of Seattle, the Secretary-Treasurer of the Pacific Coast Divison. Mr. SALMONSON made the presentation of a paid-up life membership in the Association to Mr. ARMBRUSTER.

Joseph A. Dupuis Died August 30

● Joseph A. Dupuis, one of three Dupis brothers who have been well known papermakers for more than a generation in both eastern and western regions of North America, died August 30 at Port Angeles, Wash. He was 67 years old.

One of his brothers, Leon, is general superintendent at the Port Angeles division of Crown Zellerbach Corporation, and the other, Dan, was manager of the St Anne Paper Company in Quebec, when he died a few years ago. Joe Dupuis' son, Edward J., is employed at the Crown Zellerbach mill in Port Townsend, Wash. Leon's son, Raymond A., is resident manager of the Crown Zellerbach mill at Port Angeles.

Joe Dupuis moved to Port Angeles 23 years ago after being employed at the Camas, Wash., mill for some time. He retired from the Port Angeles mill in 1937 and opened Dupuis Tavern, a familiar landmark to travelers on the highway a few miles east of Port Angeles. Born in Easton, N. Y., he had been in paper making jobs since he was a boy of 15—a total of 46 years in the industry.

Besides his brother, Leon, and the son and nephew named above, he is survived by his wife, the former Eunice Marie Boiselle, to whom he was married in 1939, and a sister in Chicago.

He had been ill several months this year. Services were held at Queen of Angels church September 3.

Paper Machine Felts Fight Infantile Paralysis

● Wool blankets from paper machine felts played a vital role in the fight against the 1943 infantile paralysis epidemic, which—it may now be stated—reached critical proportions in a number of the overpopulated war industry communities of the Pacific Coast.

It was by an odd circumstance that these highly valued blankets came into the picture.

As is now well known, Crown Zellerbach Corporation, Longview Fibre Company and other concerns have donated used paper machine felts which have already been made into thousands of blankets for use of refugees and stricken populations in Europe and also the victims of disasters in this country. These felts have been donated to the Red Cross and the Maple Leaf Fund.

But medical officers fighting infantile paralysis were not aware of this source of blankets until it was brought to their attention by Charles M. Wollenberg, who is an official of the California State Department of Public Health. It so happens that he is a brother of H. L. Wollenberg, president of the Longview Fibre Company.

The Mr. Wollenberg in the health department learned that in the most successful method of combatting infantile paralysis, the Nurse Kenney method, the patient's legs are massaged and wrapped in hot blankets out of almost boiling water. Naturally, he knew of an excellent source for these critically needed blankets.

Longview Fibre Company donated 1,000 pounds of used felts for a test. They proved so satisfactory that a steady supply from Crown Zellerbach and Longview Fibre were contributed in the fight against the disease which finally ended in success.

Sergeant Salmonson Arrives Overseas

● Sgt. Raymond K. Salmonson, on leave from Soundview Pulp Company, Everett, Wash., while serving in the chemical branch of the U. S. Air Force, has landed somewhere on the east side of the Atlantic in one of the European or African war theaters, according to word received by his family.

Sergeant Salmonson, who worked in the bleach plant and later as statistician in the boiler house at Soundview, still gets mail addressed: APO 4744, care Postmaster, New York. His father, S. A. Salmonson, is assistant superintendant at Soundview, and his brother, Walter, represents Simonds - Worden White Company, with Seattle offices.

Simeral Heads War Chest Drive

Mr. R. W. Simeral, vice president and manager of the Fir-Tex Insulating Board Company, mayor of St. Helens, Ore., and chairman of the Columbia County USO committee has been designated by ex-governor Charles Sprague to head the new Oregon War Chest set-up in Columbia County.

Mr. Simeral takes on the job of organizing the campaign for the raising of funds for this consolidation of virtually all charitable and philanthropic organizations.

Record Proves Rayon Cord Superior to Cotton for Tires

In telephone interview with PACIFIC PULP & PAPER INDUSTRY, Senator Wallgren says Washington does not attach importance to subcommittee report questioning U. S. army's preference for rayon, much of which is made from wood pulp.

• In a telephone interview with this magazine, Senator Monrad Wallgren (Dem., Wash.), said that opinion in Washington official circles "does not attach great importance" to a Senate Truman Committee report questioning the selection of rayon in place of cotton cord for the construction of military tires."

"Because of the fact that our wood pulp industry in Washington state is such an important factor in producing the raw material for rayon, I suppose it might be felt by some that I should have been in there fighting for the rayon side," said the Senator, who is a member of the Truman committee, which has been making an exhaustive investigation of war industries.

"But as a matter of fact," he added, "it was only a sub-committee of the Truman committee that made this report. I was not a member of that sub-committee. We all recognized that this was merely an expression of the point of view of the cotton senators and Washington does not attach great importance to it.

"The hearing lasted only about six hours," said Senator Wallgren, "and it only went so far as to suggest that further tests be made before deciding that rayon is superior to cotton in the manufacture of synthetic tires."

It is believed that the sub-committee's report was dealt mortal blows when Acting War Secretary Robert P. Patterson, the then Rubber Director William M. Jeffers and WPB officials vigorously challenged it.

Mr. Jeffers did not mince words in saying:

"So what? The committee says that there is no proof that rayon cord is better than cotton cord for use with synthetics. Experts of the army, the industry and my office disagree. I'll trail along with those who have had a lifetime of experience with tires and tire-testing, particularly when essential truck and bus transportation, the civilian economy, the outcome of battles and the lives of soldiers are the price of being too late with too little without any insurance policy."

Backing this forthright statement, figures show that tire manufacturers in the years between 1937 to 1943 have rapidly substituted high tenacity rayon cord for cotton. During recent years, wood pulp has become increasingly important as the base material for this high tenacity rayon.

The demand for high tenacity rayon was less than two million pounds in 1937, in excess of four million pounds in 1938, more than seven million in 1939, more than 12 million in 1940, more than 18 million in 1941, more than 45 million in 1942 and more than 80 million pounds in 1943.

The U. S. Government is making every effort to increase the poundage available to the industry to close to 200 million pounds in 1944.

This is a phenomenal record and means much to the Pacific Coast wood pulp industry. It is all the more remarkable in view of the fact that some of the largest tire manufacturers have a definite stake in the cotton manufacturing business. They are forced to disregard this in the face of rayon's demonstrated superiority.

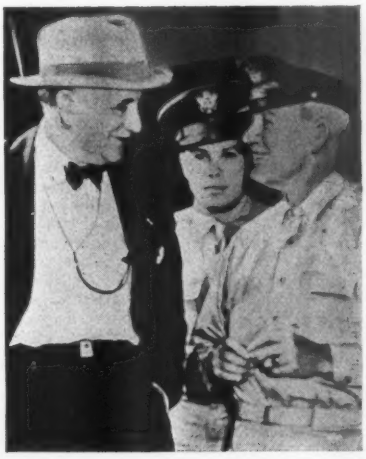
Anacortes Pulp Mill Resumes Operations

• The log breakdown and chipping plant supplying the Anacortes, Wash., division of the Coos Bay Pulp Corporation started operations on September 3. Actual production of the pulp mill began on the morning of September 7, following the thirty-two-hour Labor Day holiday required under terms of the union agreement.

Thus were operations resumed at one of the three Puget Sound mills which were forced to shut down November 1, 1942, by a War Production Board order withholding logs. Of the other mills closed by that order, the St. Regis kraft mill in Tacoma is still shut down and the Rayonier mill in the same city has been dismantled and its equipment sold.

The Anacortes mill is resuming with almost all of its log supply coming from its own holdings in Skagit County. It produces unbleached sulphite pulp which will be allocated by the WPB but normally goes to the parent concern, the Scott Paper Company. The mill is operating on a six-day week.

C. Wylie Smith, vice president and general manager of the Coos Bay Pulp Corporation, which also operates a mill at Empire, Ore., directed the reopening of the mill.



BETWEEN TWO DISTINGUISHED ARMY LEADERS IN THIS PICTURE, Lieut. Gen. WILLIAM S. KNUTSEN (left), on liaison duty between the WPB and Army, and Maj. Gen. GEORGE H. BRETT (right) of the Air Corps, is Maj. R. P. WOLLENBERG, Air Corps, who was Assistant Engineer at the Longview Fibre Company, Longview, Wash., before joining up in April, 1941. He is the son of H. L. WOLLENBERG, President of Longview Fibre. Major WOLLENBERG was a Second Lieutenant when touring the country with Generals KNUTSEN and BRETT, as Special Assistant to the latter. Since then he has had a variety of assignments and rapid promotions to his present rank. For some time he has been stationed at Warner Robins Air Depot, Macon, Ga., where first he organized the civilian personnel department and hired several thousand employes. Later he was transferred to the maintenance division, operating aircraft shops. Then he organized the production planning work and is now in charge of that activity. In March he became a Major.

Son for Major Wollenberg

• A son, Kenneth Roger Wollenberg, was born to Major R. P. Wollenberg, U. S. Army Air Corps, and Mrs. Wollenberg on July 17, 1943, at the Station Hospital, Robins Field, Warner Robins, Georgia.

The father, former assistant engineer at Longview Fibre Company, Longview, Wash., in a letter to this magazine, described his young son as "both an 'army brat' and a 'Georgia cracker' which is a far cry from what might have been expected a couple of years ago in the Pacific Northwest."

U. M. Dickey, Soundview President, Suggests Basis for Watershed Logging

● As the years of comparative timber scarcity are approaching and closer utilization of wood becomes a prime post-war objective of all those woods industries which hope to survive, the subject of logging on watersheds is going to be widely discussed.

Early this year selective logging was authorized on the Oregon City watershed and there will be other communities which will undoubtedly follow suit, but will seek to control and keep such logging within definite bounds.

It is of interest to note that the Municipal Council of Seattle, an organization of public-spirited citizens which has a long history of making thorough-going studies of all kinds of civic problems, has now completed a research in the problem of watershed logging.

Its utilities and service committee, headed by G. M. Zucco, now a major in the army engineers, reported that it found a clear preponderance of technical opinion which held that strictly controlled logging operations, under continual supervision of the water and health departments of the city are entirely advisable.

In this connection, it might be pointed out that representatives of this magazine have been told by U. S. foresters that watersheds generally are improved by selective logging.

The Seattle watershed consists of some 90,000 acres on upper reaches of he Cedar River in the Cascade Mountain area. The watershed is divided into about two equal parts by a bottleneck at the city dam. The bulk of the land in the lower watershed is owned by the city and much of it has been logged over already. The upper watershed has been closed to logging since 1939, following a limited amount of logging.

U. M. DICKEY, PRESIDENT OF SOUNDVIEW PULP COMPANY, Everett, Wash., who presented a long-term, sustained yield program for logging in the Seattle watershed at the invitation of the Seattle Municipal Council.

In this area are about 1,600,000,000 board feet of virgin timber owned largely by the federal government or the Northern Pacific Railway, each owning substantially every other section with the exception of five or six sections owned by Weyerhaeuser interests and one or two by the state.

The Soundview Pulp Company of Everett, Wash., has a contract with the Northern Pacific for its timber.

Regarding the question of logging, which has been a lively issue in the Seattle City Council, U. M. Dickey, president of Soundview, said this timber is part of a large back-log which has been acquired to insure a steady flow of raw materials over a long period of years. He said his company is not interested in a rapid cutting of timber in the watershed, but had suggested that the operations be limited to the basis of an average cut of 25 or 30 million feet per year, which would remove timber from approximately 1,000 acres annually. With 90,000 acres in the watershed, such an operation would remove timber on approximately a 90 year cycle.

In considering the economic costs, he pointed out, it must be remembered that the city owns but an insignificant portion of the remaining virgin timber in the watershed. The timber which the city did own has in a large measure been sold and harvested, resulting in a return to the city of $1,060,000 which approximates the city's original investment in the watershed for water supply purposes. If it is to make effective a policy of preventing any future logging operations, it will probably be necessary for the city to purchase the remaining original timber estimated at 1,600,000,000 board feet. It is apparent that the federal government does not feel that it is necessary and is not inclined to dedicate its timber exclusively for water protection purposes and that which is held by private parties represents an investment which is not likely to be abandoned. If the cost of securing such timber does not exceed $3.00 per thousand, the necessary cash outlay would involve $4,800,000.

THIS IS GEORGE G. GUILD, who now tours the Pacific Coast mills for Huntington Rubber Mills, Inc. Back from a tour of Japan 36 years ago, he prophesied: "War with Japan is bound to come."

George Guild Predicted Jap War 36 Years Ago

● Thirty-six years ago, George G. Guild, who is now the vice president of Huntington Rubber Mills, Inc., with his headquarters in Seattle, predicted war between Japan and the United States.

In the light of what has happened in recent years, Mr. Guild made some remarkably sharp and prophetic observations about the Japanese only a couple of years after they had waged a triumphant war against Russia. At that time, Mr. Guild was the Oriental sales manager of the United States Paper Export Association of New York. He had just landed in Victoria, B. C., from a trip to Japan, in February of 1907, when he made these statements which were published in a now yellow and withered copy of the Victoria, B. C., Colonist:

"White people in the Orient agree that the Japanese need a whipping, and need it badly. Russia will not be in a position to administer it for too long; Great Britain is too closely allied to Japan in many ways, so it is generally thought that the task is up to the United States. It is the concensus there that war is bound to come. It is also the general opinion that were Japan not so hard up she would start the contest tomorrow, before the United States has strengthened her forces by land and sea on the Pacific Coast."

Mr. Guild said it was the opinion of whites in Japan that the Tokyo government was anxious to have as many Japanese as possible settle in Hawaii, the United States and British Columbia, believing "they would come in handy when the trouble comes."

"The Japanese are fatalists and fanatics and to that I think much of their success in the recent war was due," he said. "But education and western ideas will change all that. In 20 years time the Japanese will not be any more anxious to die than the white man. He will have lost his superstitions and that is what gives him most of his courage."

Also in the interview, Mr. Guild described "the debased and animal-like life of Japanese laborers" in that time and of their disregard for patent rights of American products and of many commercial agreements.

Kaster On Vacation

J. D. Kaster, Jr., paper mill superintendent, Oregon Pulp & Paper Company, Salem, Ore., usually goes hunting in his home state on vacations but, what with the shortage of shells and rationing, he decided to try California for a change. He came back to the job with a deep tan.

U. S. Congressmen Offer Canada A Plan to Increase Pulpwood Output

Representative Boren of Oklahoma says newsprint is now "an essential industry" in the United States (but this is unconfirmed by WPB) ✓ ✓ ✓ His committee wants entire pulp and paper industry in the United States declared vital to war.

CANADA is performing a good wartime job in newsprint production, but is missing an opportunity to boost output of the mills by failure to place the industry in an "essential" manpower category and indecision regarding the employment of prisoners of war in woods operations, according to Rep. Lyle H. Boren (Dem., Okla.), chairman of a newsprint and brand names subcommittee of the Congressional Committee on Interstate and Foreign Commerce, on completion of a coast-to-coast tour of Canadian pulp and paper regions.

Mr. Boren and other members of the subcommittee made a tour of newsprint mills in Canada and Washington and Oregon in order to study possibilities of increasing production in the industry. They discussed the results of their tour with a representative of PACIFIC PULP & PAPER INDUSTRY in Vancouver, B. C., where they were welcomed by R. Bell-Irving, vice president of Powell River Company, and J. A. Young, vice president of Pacific Mills, Ltd.

"Naturally we wouldn't presume to tell Canada how to run her business," said Mr. Boren with a smile. "After all, Canada has had as much experience in newsprint production as any other country and should appreciate the industry's national importance. The only suggestion I might have to offer Canada is merely in the form of a statement as to what we have done in the United States. On the recommendation of this subcommittee, newsprint has been declared an essential industry in the United States and, also on our recommendation, prisoners of war have been employed to cut pulpwood in some of the southern states."

Members of the subcommittee who visited Canada were: Rep. Lindley Beckworth (Dem., Texas); Francis J. Myers (Dem., Penn.); Richard F. Harless (Dem., Ariz.); Charles A. Wolverton (Rep., New Jersey), and Clarence Brown (Rep., Ohio).

The party visited the centers of newsprint production in eastern Canada and held several conferences with operators. Although their original plan was to spend only a few hours in British Columbia, President Harold Foley of Powell River Company and other company executives extended an invitation to them by wire to visit at least one British Columbia plant, with the result that the congressmen boarded the yacht Kitimat soon after arrival in Vancouver and cruised up the coast to Powell River. They were accompanied by the Hon. A. Wells Gray, provincial minister of lands; Chief Forester C. D. Orchard; J. A. Young of Pacific Mills; William Barclay, manager of Powell River Sales Company, and D. G. Stenstrom, Vancouver pulp and paper mill consultant. Next day they flew down to Victoria and proceeded to Port Angeles, Wash., and from there to Seattle and Portland, Ore., continuing to visit mills and talk with industry leaders.

Interested In Alaska Pulp

● While in the Portland area, the committee members visited the Hawley Pulp & Paper Company at Oregon City and the Crown Zellerbach mills at West Linn, Ore., and Camas, Wash. They had an opportunity for discussion of industry problems with Frank N. Youngman, vice president of Crown Zellerbach Corporation, John H. Smith, president of Hawley Pulp & Paper Company, F. H. Brundage, western log and lumber administrator for the War Production Board and H. J. Andrews, chief forester of the U. S. Forest Service for the North Pacific region.

Members of the committee voiced great interest in the pulp production possibilities of southeastern Alaska where there are great stands of hemlock which the U. S. Forest Service has long contemplated would be used as material for a pulp industry (see p. 22, May, 1943 Annual Review Number, PACIFIC PULP & PAPER INDUSTRY).

By emphasizing the importance of essential rating for pulp and paper mill employment and referring to prisoners of war as a possible source of labor, Congressman Boren lent support to an agitation for such action by the Canadian government being pressed by the Canadian newsprint industry.

Need 20,000 in Forests

Mr. Boren said that while his subcommittee was primarily interested in the maintenance of newsprint production so as to prevent unnecessary curtailment of supplies for newspapers in wartime, the whole field of pulp and paper production had been studied. He said he was convinced that the threat of severe shortage could be dispelled if the United States and Canada each placed 20,000 additional men in the forests for pulpwood cutting.

Mr. Boren said that, in addition to endorsing the subcommittee's manpower proposals, Congress had also adopted its recommendation that allocation of newsprint paper production be kept on a horizontal rather than a vertical basis.

"We mean that when there is a decrease in quotas,

Another Newsprint Cut Coming

An additional 5 per cent cut in newsprint usage for the fourth quarter of 1943 has been recommended by the Newspaper Industry Advisory Committee.

In announcing the action, WPB said this would mean a total theoretical cut of 15 per cent since the start of the year, but the newspaper group's recommendation has not been translated into a decision because information is lacking on newsprint tonnage to be delivered by Canada in the fourth quarter. Actual cuts by many newspapers thus far have been less than the requested 10 per cent. Canada supplies 75 per cent of print paper used by United States publishers.

MEMBERS OF A UNITED STATES CONGRESSIONAL SUBCOMMITTEE, WHICH TOURED CANADA AND THE PACIFIC NORTHWEST STATES WHILE MAKING A STUDY OF THE NEWSPRINT SITUATION, are shown here with two of their hosts in Vancouver, B. C. The congressmen also stopped in Powell River, B. C.; Port Angeles, Wash.; Seattle, and Portland, Ore., and vicinity during their trip.

Left to right: Representative CHARLES A. WOLVERTON (Rep., N. J.), R. BELL-IRVING, Vice-President of Powell River Company, and Representative LYLE J. BOREN, (Dem., Okla.), Chairman of the Committee; Representative LINDLEY BECKWORTH (Dem., Texas); Representative RICHARD HARLESS (Dem., Ariz.); O. T. SMITH, the Committee's official reporter, and J. A. YOUNG, Vice-President and Treasurer of Pacific Mills, Limited.

as in the 10 per cent reduction already in effect, it should apply the same to everybody. For instance, when a 10 per cent cut is warranted each quota should be cut 10 per cent. It should not be judged according to their wants, thus avoiding any disturbances."

Mr. Boren said that employment of prisoners from northern Italy, who were good woodsmen, had not violated the Geneva Conference inasmuch as the prisoners had not been forced to work but had offered to do so voluntarily.

The invitation to the congressmen to visit Canada was extended by the Canadian department of external affairs and the wartime information board. The tour was conducted under the auspices of the newsprint administration of Canada's wartime prices and trade board and the Canadian industry.

Although recognizing the difference in labor and operating conditions as between the Pacific Coast and Eastern Canada, Mr. Boren said that he felt classification of the industry as essential in Canada would have favorable results. On the west coast it would prevent men already engaged in pulp and paper mills from quitting their jobs and it would encourage a diversion of labor from less important trades to the paper industry.

"If the measures we suggest fail to bring about increased production," said Mr. Boren, newspapers and other publications will have no alternative but to curtail again the vital services they render.

Combining the potential shortages in the United States and Canada, Mr. Boren said that the need was for 3,750,000 more cords of pulpwood, the equivalent of about 2,000,000 tons of paper, or about 30 per cent of current U.S.-Canada use of 6,000,000 tons of book, magazine and newsprint paper a year. If the deficit were made up entirely at the expense of newsprint, the cut would be 60 per cent. A 30 per cent reduction would mean shipments of newsprint at a rate of 148,000 tons a month against 210,000 tons monthly now.

Discuss Prospects

Regarding the present newsprint prospects, Mr. Boren said:

"The Canadian industry assures us it will be able to continue present shipping rates until May, 1944. There is enough wood in sight—cut or on the way to the mills—to maintain production that long. But unless more men are made available, inventories by then would be exhausted."

Congressman Wolverton said the committee had gained a tremendous background of fact concerning Canada's pulp and paper problems and he expressed appreciation for the government's and the industry's cooperation.

"It undoubtedly would be very helpful if Canada would take the same view of the pulpwood industry that the United States has taken," said Mr. Wolverton, emphasizing the importance of the "essential" classification. He suggested that some of Canada's home defense force of 500,000 men might be profitably employed in cutting pulpwood.

A re-appraisal of labor requirements in all war industries, said Mr. Wolverton, would probably result in the replenishing of woods crews in both Canada and the United States.

When they were in Ottawa August 23 the sub-committee laid before Canadian federal government officials a series of proposals resulting from their conferences with operators in the Saguenay valley, where most of Quebec's pulp and paper production is concentrated.

The suggestions were as follows:

1. Grant woods workers deferment from draft on the same basis as workers essential to any other war industry, by amendment of government regulations on conscription.

2. Permit soldiers furloughs of one to three months on proof that they are skilled woodsmen.

3. Broaden the rules governing deferment of farmers to include the right for farmers to go into the wood cutting industry whenever they are not actually engaged in farming.

4. Increase the pay of woods workers. One proposal was for an advance of 25 per cent on the ground that the increased mill operations rate should nearly balance the greater cost and obviate any further price rise for newsprint.

5. Return skilled wood cutters to timber lands, since those working at unskilled jobs in other industries are not fully utilizing their abilities.

6. Eliminate rationing of wood cutters' food. It was pointed out that the work is hard, far from city comforts and conveniences and the men often found conditions undesirable enough without being on short rations, too.

7. Allow higher priorities for material needed, particularly spare parts for machinery.

Met WPB Officials

Before going to Canada members of the sub-committee spent two days in conference with newspaper publisher representatives and members of the American Paper & Pulp Association in New York.

"Our purpose in New York," said a spokesman for the congressional party, "is to obtain from New York publishers, manufacturers and other paper people a background of fact on which to begin our study of problems related to the paper shortage and its effect."

Representative Boren, at a press conference in New York, declared that after meeting the publishers the committee had

decided unanimously to recommend to the War Production Board that it hold unalterably to the present basis of percentage cuts in consumption of newsprint.

"Despite considerable pressure to change this program," said Rep. Boren, "the committee feels that there shall be no change in method. There has been a definite feeling in WPP and elsewhere not to depart from the percentage basis cuts only as a last resort. Our opinion is not to depart from it."

The congressmen met August 12 with WPB officials—Howard E. Whitaker, deputy director, pulp and paper division; Harry M. Bitner, director printing and publishing division; Matt G. Sullivan of the same division, and W. J. Risley, assistant director, magazine and periodical division.

Members of the publishers' association told the Washington group that there had been a serious loss of labor in forest regions during the past year. Congressman Boren told the publishers that on the recommendation of his committee wood cutting had been declared an essential industry in the United States and members of the craft were exempted from active service. That, however, had proved inadequate.

"We are going to recommend that other phases of the paper industry be declared essential, also," he said. "We think this will help alleviate the situation."

He characterized as "ineffective" the current program to use salvaged paper in manufacturing. He praised the publishers' association's campaign to induce farmers to cut trees on their property and the drive to get part-time wood cutters into United States forests.

Hurried Trip Gave Congressmen Little Chance to Learn About the West

BRITISH COLUMBIA pulp and paper men had an opportunity to explain some of their production problems to the congressional subcommittee headed by Rep. Lyle Boren, and they were favorably impressed with the young Oklahoman and his colleagues.

The only complaint of the British Columbians was that so little time was provided in the committee's itinerary to survey the Pacific Northwest and that so much emphasis was placed on newsprint rather than on other phases of pulp and paper production.

The committee, which spent more than a week in Quebec and Ontario, was able to visit only one British Columbia mill—Powell River Company's big plant, but this was more by accident than design. When he learned that the party was coming west, President Harold Foley of Powell River was in California on business. An invitation was sent to Rep. Boren on behalf of the company. It was received while the congressmen were in Calgary preparing for a stopover at Banff, and was accepted. Mr. Foley flew north to accompany the Washington delegation up the coast on the unscheduled side trip.

At Powell River there was opportunity for a heart-to-heart talk between the congressmen and the operators and for an inspection of the Pacific Coast's biggest newsprint mill. After their round of eastern Canadian mills, where all the raw material comes in neat cordwood lengths, it was a revelation for the congressmen to see how the west coast handles its production problem. It was too bad they didn't have time to go back into the woods and glimpse a logging technique that is as different from the eastern as black is from white. Nor would they have such a chance during the remainder of their comparatively brief visit to the Pacific Northwest.

"It was obvious that the committee was chiefly concerned with newsprint," one paper mill executive told PACIFIC PULP & PAPER INDUSTRY. "Possibly it was due to that conception that so much time was concentrated on the newsprint producers in the east. Out here, of course, we're as much interested in other types of paper and pulp; in fact, some of us are inclined to regard these other types as of more direct relation to the war effort than newsprint. The committee members seemed interested in all the factors controlling pulp and paper production, but newsprint seemed to be their business."

Members of the committee noted that while in eastern Canada the principal market for wood was the newsprint industry; on the west coast the pulp and paper mills were only one of several forest production divisions clamoring for logs. And they learned that the "mixed stands" of timber in the west made it virtually impossible to operate logging camps exclusively for pulpwood, as was often done in the east.

Eastern Canadian forests run heavily to spruce and other pulpwood species; in British Columbia and the Pacific Northwest states hemlock and balsam, chief pulpwood species, occur with Douglas fir and cedar.

Another difference as between the east and west was, of course, the technique of production. In eastern Canada logging is largely seasonal, with timber cut in the fall and winter and sent on its way to the mills by the spring drives on the rivers. In many instances the pulpwood is cut by farmers in the off-season or by small individual logging camps, and the general nature of the forests and topography make it possible to employ relatively light equipment.

By contrast, logging in the Pacific Northwest is an all-year proposition. Cutting by farmers is a negligible factor. Most of the production is in the hands of organizations with several hundred employees, many of them specialists, and employing heavy machinery and other equipment developed to meet the special conditions such as bigger trees, rougher terrain and greater distances.

For that reason, members of the congressional committee soon realized that a study of conditions in eastern Canada was little more than an introduction to the situation on the Pacific coast; that in many instances the problems of production as between east and west were radically different, even though lack of labor was obviously the fundamental need of the industry throughout the country.

Newsprint Hit Hard

British Columbia is an important source of newsprint, but it is a relatively small factor compared with eastern Canada, being responsible for about 10 per cent of the total Canadian production. But some 85 per cent of British Columbia's newsprint output is shipped to the American market.

In Vancouver members of the committee were informed that newsprint has suffered more than any other product of the industry as a result of wartime conditions. Powell River Company, for instance, has three newsprint machines down and is operating only 5 2/3 days a week. Pacific Mills, Ltd., the other British Columbia newsprint producer, has one machine down. Newsprint production for the entire industry in British Columbia is about 40 per cent lower than it was before the war.

This is due to a variety of reasons, most important of which is that the Canadian government has placed emphasis on production of other types of paper and of sulphite pulp and kraft that can be utilized in manufacturing processes more directly associated with the war effort. Dissolving pulps, for instance, are used for nitrating into explosives and in making plastic substitutes for metal and synthetic fibres form tires, bombs, chutes. Paper board is used for shell cases, packaging

small arms, gun barrels and machine parts, blood plasma containers, etc. Building board is used for construction of army and naval buildings and ship fittings.

Canada uses only 16.6 per cent of the total pulpwood consumed in Canada, and the same percentage applies to British Columbia as to other pulp and paper producing provinces, and newsprint used in Canada accounts for less than 3 per cent of the total pulpwood consumed in Canada. On the other hand, of the 70 per cent of total woodpulp consumption in Canada which represents shipments to the United States newsprint accounts for more than 50 per cent, the balance being for paperboard, wrapping, book, etc., dissolving pulps, bleached and unbleached sulphite, sulphate, soda and groundwood pulp.

To maintain production British Columbia pulp and paper mills must depend on the logging industry as a whole. If there is an over-all shortage of men in that industry the loss is felt by companies like Powell River, Pacific Mills, B. C. Pulp, Sorg and Westminster as well as by the sawmills, shingle and plywood plants. All labor in British Columbia is routed through the national selective service board, a national government organization, and the Vancouver office of this board informed Pacific Pulp & Paper Industry late in August that the logging industry had orders on file for 1250 men. In other words, there were that many specific jobs open for loggers at that time, but spokesmen for the B. C. Loggers Association say that the figure is conservative; that 4,000 men could be readily absorbed. They point out that the industry is now employing about 8,000 men, compared with a normal 12,000. In other words, manpower is down about 33 per cent—a contention reflected in a continuing slump in log production.

Inventories Are Low

Inventory position of British Columbia pulp and paper mills has been low all year, notwithstanding the evidence placed before the Jackson-Kefauver-Stevenson congressional committee in Seattle (Page 7, Aug. '43, PACIFIC PULP & PAPER INDUSTRY). It has been so low that Powell River Company has had to shut down on several occasions and B. C. Pulp & Paper has been forced to curtail production.

A British Columbia logging authority recalled testimony in Seattle to the effect that in June British Columbia's inventory of hemlock and balsam, the chief pulp species, was about 70,715,000 feet, compared with Puget Sound's 67,855,000 feet. He said that the figure quoted for British Columbia included about 10,000,000 from the west coast, and that it would be just as reasonable to include in the U. S. figure the Grays Harbor inventory of 36,970 feet and the Columbia river's 69,721 feet, making a total considerably more than double British Columbia's.

However, none of the British Columbia pulp and paper men are anxious to enter into a controversy over comparative log supplies and the pros and cons of log export policy. They argue, however, that if consideration is given to the fact that the working week in the mills of British Columbia is a day shorter than that of mills in Puget Sound it will be shown that the log supply situation on the Canadian side has been consistently worse than in the state of Washington.

How to get more men in the woods is as much a problem in British Columbia as in eastern Canada. Enlistment of 60,000 men in the armed services and the absorption of another 40,000 in shipyards, aircraft plants and other war industries has pretty well depleted the reserve of manpower in the west coast province. Presumably the only way to enroll more loggers is to recall men from the home defense forces or from the shipyards and other plants, and both these measures have from time to time been suggested by the B. C. Loggers Association, with indifferent results.

Interviewed by PACIFIC PULP & PAPER INDUSTRY, most of the pulp and paper industry leaders in British Columbia are convinced of the justification for classification of pulp and paper production as an essential industry.

"War requirements are sufficiently important to support this claim," said one operator, "but we should not overlook the part that the industry will play after the war. It has been Canada's biggest export industry for years and can continue to be so only if it is maintained in a healthy condition now. We must not forget that the premium on the U. S. dollar has been a big wartime factor in the industry's economic stability. That premium cannot be expected to continue indefinitely, and when war is over we will face world competition again, especially the competition of Scandinavia and the Baltic countries. For these reasons the maintenance of the pulp and paper industry in a strong position should be a part of Canada's national policy."

THIS HONOR ROLL BOARD HAS BEEN INSTALLED IN THE OFFICE of the Fir-Tex Insulating Board Company, at St. Helens, Ore. Some 90 odd names of former employees now in the service of the country appear and more were due to be posted. With a total payroll of around 200 persons, this number of men in the armed forces represents an unusually high percentage from this organization.

Forrest Williams Joins Seabees

● Forrest Williams, sulphite engineer at Camas, Wash., mill of Crown Zellerbach Corporation, left August 24 for Norfolk, Va., to join the Seabees, the U. S. Navy construction battalion.

Mr. Williams has been employed in the Camas mill for 18 years. He was manager of the sulphite mill's softball team in the mill league. Mrs. Williams, his wife, is employed as a comptometer operator in the mill office and will remain in Camas, where they own their home.

Sgt. Tipka Near Home

Sgt. Vernon L. Tipka, U. S. Army, on leave from his post as research engineer at the Hawley Pulp & Paper Company, Oregon City, Ore., has been transferred from Fort Warren, near Cheyenne, Wyo., to Vancouver Barracks, Vancouver, Wash., which brings him closer to home. He is in the quartermasters' training corps.

Seaborne At Longview

● Charles Seaborne, vice-president and general superintendent of the Thilmany Pulp & Paper Company, Kaukauna, Wis., makers of tissues, glassine and waxed specialties and kraft and sulphite wrappings, was a visitor at Longview Fibre Company, Longview, Wash., in mid-August. Mr. Seaborne was the chief engineer and builder of the Longview mill in 1926-27.

Boy for Cavanaughs

● A boy was born August 19 to E. J. ("Eddie") Cavanaugh, resident engineer, Port Angeles, Wash., division of Fibreboard Products Inc., and Mrs. Cavanaugh. This is their second child, the first being a girl, now over three years old.

Canadian Pulp and Paper Industry Outlines Its Production Problems

Industry wants immediate assignment of 20,000 prisoners and rural workers not engaged in farming to woodcutting ... It cites inconsistencies in official U. S. and Canadian positions on essentiality.

● As soon as Canada has harvested her grain crops efforts will be made to mobilize additional labor for the pulpwood forests, according to Arthur MacNamara, national selective service director at Ottawa.

Mr. MacNamara says that plans are being considered for the employment of a greater number of prisoners of war in production of vitally needed pulpwood.

Pulp and paper men on the Pacific coast have no additional information on the subject, but it is presumed that some men will be diverted from prairie farms this fall to work in British Columbia woods. In a minor way this was done last winter, although most of the men went to the mines instead of to the woods, and those engaged in forest industry worked primarily for logging companies cutting for sawmills. Now that emphasis is turning to pulpwood, it is expected that more men will be available for the camps engaged in pulpwood production.

Japanese are now being employed to some extent in the interior of British Columbia cutting pulpwood. In the Lone Butte section of the Cariboo, for instance, Japanese evacuated from the coast are producing jackpine for Sorg Pulp Company's kraft mill at Port Mellon. It is probable that at least 1,000 more Japanese could cut woodpulp should the conditions warrant it.

The Canadian pulp and paper industry, meantime, has prepared a report outlining some of the salient features of the production problem and suggesting ways of meeting it.

According to industry, Canada faces a pulpwood shortage of 1,250,000 to 1,750,000 cords unless immediate steps are taken to transfer to woodcutting some 20,000 internees or prisoners of war and farmers and rural workers who are not engaged in farming.

Industry's Claim to Essentiality

In support of its claim of essentiality, the industry states:

1. Pulpwood products today are indispensable in the manufacture of a wide and ever-increasing range of materials vital to the fighting forces.

2. Official controls have already limited consumption and eliminated the major part of non-essential use of pulpwood and its products.

3. Excessive curtailment of operations will have far-reaching and long-lasting economic and social consequences for Canada.

4. Excessive curtailment will seriously affect Canada's economic position and postwar markets.

The report points out that over 81 per cent of the industry's use of pulpwood is for export. Official estimates of the shortage run between 1¼ and 1¾ million cords, or about 20 per cent of the wood currently being consumed.

Estimated Canadian shipments of all pulp and paper products during 1943 are: Canada, 1,021,566 tons representing 1,294,350 cords; United States, 3,843,425 tons representing 5,479,303 cords; British Commonwealth and other countries, 680,423 tons representing 1,036,565 cords.

Any saving in Canadian consumption would, the report states, be insignificant. Canada uses only 16.6 per cent of the total pulpwood production; newsprint used in Canada accounts for less than 3 per cent of the total Canadian cut. Even the total elimination of all pulp and paper used in Canada would not offset the 2 per cent shortage.

The committee admits that some further economy in Canadian use of pulpwood might be possible, but such a saving would not exceed perhaps 75,000 cords, in relation to the estimated over-all shortage of between 1¼ and 1¾ million cords.

So far as outside markets are concerned, it is emphasized that, as exports of other products are negligible, it is practical to consider only newsprint and pulp. Analyzing newsprint exports, the report shows that 2,520,000 tons go to the United States and 328 tons to points overseas.

In respect to United States, newsprint shipments have already been cut by 17.5 per cent, a decline of over 500,000 tons. It is stressed that, even if newsprint production in Canada is maintained at current levels, some additional tonnage must be found for liberated countries as well as for Britain as shipping conditions improve. Such revision can be made only at the expense of Canada's best customer, the United States, and to a much smaller degree at the expense of Canada itself.

Further curtailment of shipments in the United States, the report says, entails consideration of these effects:

1. United States publishers have had great difficulty in adapting their operations to a moderate 10 per cent in consumption.

2. The odium resulting from any substantial cut will fall on Canada, particularly as the United States has declared the cutting of pulpwood an essential industry. Practical experiences has taught the industry that the effects of this will be far-reaching and long-lasting.

3. Should newsprint supplies, mainly the responsibility of Canada, be cut more deeply and magazine paper in the United States, entirely the responsibility of United States mills, be left comparatively untouched, the odium will be accentuated.

4. Reducing current newsprint operations will involve substantial increases in Canadian production costs. Reduction from the present operating rate of 65 to 50 per cent would increase costs between $7.50 and $9 a ton.

5. Reducing current operations from roughly 65 to 50 per cent would seriously affect mill communities in Canada which live principally on newsprint. Yet that would not solve the pulpwood shortage problem because it would save no more than 650,000 cords, or about half the shortage which looms.

6. If the entire shortage were taken out of shipments to the United States, the reduction of 1,500,000 tons in the annual shipments would reduce deliveries by 60 per cent. Equal shortages in American production would likely ensue and the result would be a newsprint supply to the American press of 60 per cent below the present reduced quantities. Current newsprint shipments are 82.5 per cent; a further 60 per cent cut would reduce them to 33 per cent of this level.

"The clamor that would arise as a result of this cut would most certainly be describable conservatively as an international issue," states the committee. "If Canada has to do this (or make any substantial cut additional to existing curtailments) after taking all possible steps to prevent it, which an enraged press would uncover, it would be bad enough. But if Canada fails in any of these steps, and in particular if the government fails to support the industry in its own efforts to avert the disaster by the constructive means proposed, then indeed will Canada's greatest industry be irretrievably damaged in its most important market."

On the question of wood pulp exports, the report estimates that Canadian shipments this year to the United States will be 1,280,000 tons. On the basis of such Canadian shipments, net shortage wood pulp imports into the United States will be 720,000 tons, because European sources normally used by the Americans now are closed. Meanwhile wood pulp consumption in the United States has risen from 9,750,643 tons in 1940 to an estimate of 11,050,000 tons in 1942. Illustrating how essential wood pulp has become to war production, it is shown that pulp and its products are being used in production of explosives, synthetic yarns, etc.

In the United Kingdom current consumption of pulp is at the irreducible minimum—20 per cent of pre-war volume. Canada is supplying 70 per cent of that amount. Exports to other countries of the British Commonwealth and to Latin America are covered by a meagre 28,000 tons which, it is estimated, Canada will ship in 1943.

The report reaches the "inescapable conclusion that no defensible additional curtailment of present use can be found sufficient to meet this shortage (1,250,000-1,750,000 cords). The alternative is cooperation between the Government and the industry to prevent the shortage developing."

U. S. Pulp Production Is Virtually Stabilized, Says Fred G. Stevenot

● Near-stability appears to have been achieved in the amount of new wood pulp becoming available for consumption in the United States, Fred G. Stevenot, president Puget Sound Pulp & Timber Company, declared recently, but at a level considerably below the current rate of consumption. He warned that the national pulp stock pile is being depleted at a rate which cannot be long continued.

Total pulp production of 4,557,000 tons in the first half of 1943 came within 116,000 tons of equaling production in the last half of 1942, but fell 965,000 tons short of the record for the first half of that year, Mr. Stevenot said. Domestic production, augmented by slightly increased imports and a reduction in exports, provided approximately the same total amount of new supply for domestic consumption in each of the four quarterly periods ended June 30, 1943.

Some divergence in trends was pointed out by Mr. Stevenot, with slight gains in receipts of mechanical pulp, from which newsprint is made, while chemical pulp receipts showed minor declines in successive quarterly periods.

"For most of the past year pulp inventories have been drawn upon heavily to meet consumption demands," Mr. Stevenot declared. "Stocks at pulp producing mills were reduced 47 per cent, from 192,000 tons in August, 1942, to 102,000 tons in June, 1943. Stocks of paper grades of pulp declined an estimated 37 per cent between October, 1942, and June, 1943."

Crux of the situation is the low rate of production of logs and pulpwood for months past. Sharp inroads have been made in inventories of wood for pulping purposes, but even this expedient enabled pulp mills to operate at only 78 per cent of capacity in the first half of 1943, and at less than 75 per cent of capacity in June.

"Renewed efforts, all on a voluntary basis, are now being made to step up production of logs and pulpwood," Mr. Stevenot said. "It is vital to the nation's welfare that these efforts succeed."

MAJOR PAUL T. FERRER, formerly Export Manager, The Flintkote Company, Pioneer Division, Los Angeles, assigned to the Army Air Forces Replacement Pool, Lowry Field, Denver, is a veteran of World War No. 1, in which he commanded Company A, 348th Machine Gun Battalion, in the St. Mihiel offensive and the Meuse-Argonne and Ypres-Lys campaigns. He received the Belgian Croix de Guerre for distinguished service. Major Ferrer has one son in the Navy and another in the Army.

Metcalf Is Gunnery Officer

Lt (jg) Herbert Metcalf, USN, formerly in charge of testers in the laboratory at Puget Sound Pulp & Timber Company, is now a gunnery officer, based at Pensacola, Fla. He has been on leave from the Bellingham, Wash., plant since September, 1942.

Puget Sound Pulp & Timber Co. Reports on Log Situation

● An interesting review of the critical log situation and a discussion of the steps taken by the Puget Sound Pulp & Timber Company to meet it are contained in the August 17 issue of "Puget Pulp News." This is a publication for stockholders of the Bellingham, Wash., company.

In part, it states:

"First shipment of logs from Canada to the United States since the embargo was instituted in August, 1942, began to arrive in the Puget Sound area early in July. Fifteen million feet of Canadian pulp logs were released, of which the company received a share. One million feet of this export was supplied by the company's timber subsidiary, Canadian Forest Products, Limited, from production on Vancouver Island.

"Until a further lifting of the embargo, logs produced by the Canadian subsidiary will continue to be sold in the Canadian market.

"Several logging operations are being conducted by the company and by contract loggers on its holdings in Washington adjacent to Bellingham. Currently these operations are the company's principal source of log supply, whereas a year and more ago most of the log supply was purchased in the open market. Logs produced by the company other than pulp species are sold in the open market.

"Another by-product of pulp manufacture is in marketing select, fine and straight grained hemlock timber for airplane manufacture. Timber measuring up to exact specifications is diverted in the cutting plant. Spruce and peeler logs (fir) for plywood, in strong demand for aircraft construction, is included in production of Canadian Forest Products, Limited.

"Ceiling on sales prices, without collateral control of cost items, continues to present the management with the problem of maintaining adequate profit margins.

"Cost of manufacturing pulp in the first six months of 1943 was 25 per cent higher than in the like period of 1942, 38 per cent higher than in the 1941 pereiod, and 57 per cent higher than in the first half of 1940.

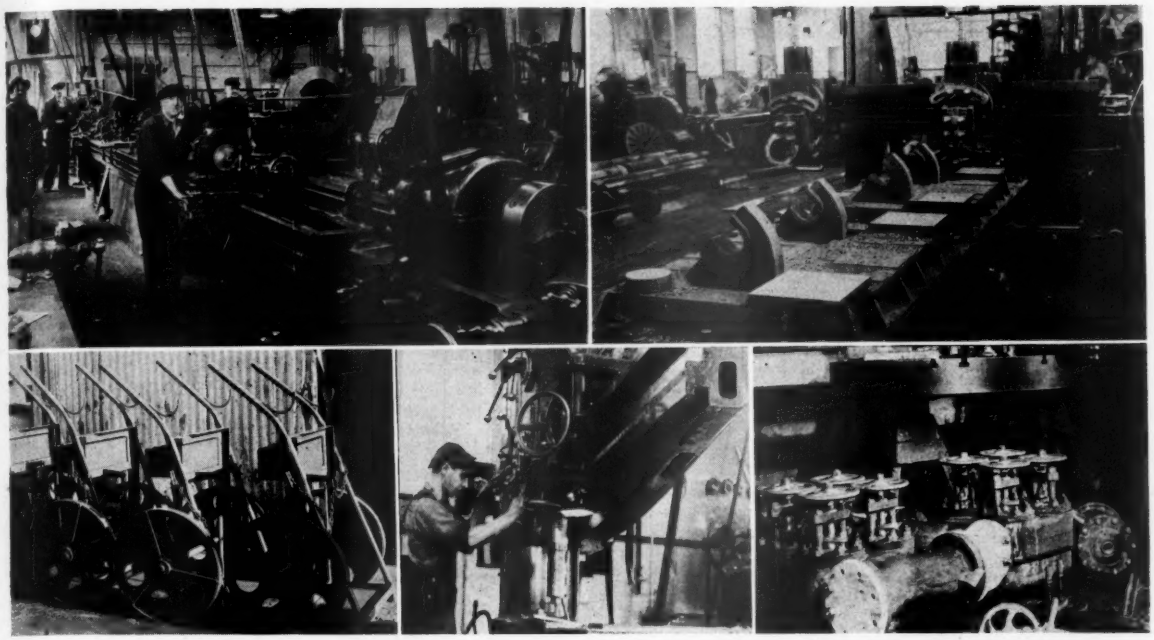
"Cost of logs, first six months of 1943, was 17 per cent higher than in that period of 1942, 44 per cent higher than in 1941, 49 per cent higher than in 1940. Labor costs rose 19 per cent over the 1942 half-year, 23 per cent over 1941, and 30 per cent over 1940. Other costs increased 36 per cent over the first six months of 1942, 37 per cent over the 1941 period, and 77 per cent over the first half of 1940.

"All of these comparisons are on a par ton basis and cover a period of years during which the average net sales price of pulp has declined due to government-imposed ceiling prices."

Here followed a discussion of national trends and these conclusions were made:

"The best that can be expected for the second half of 1943, without more woods labor, is continuance of the even trend in new pulp supply maintained for the 12 months just passed. On this basis about 10,100,000 tons of new pulp would become available during 1943, consisting of 8,200,000 tons of chemical and 1,900,000 tons of mechanical pulps. Such receipts would be 700,000 tons of chemical and 100,000 tons of mechanical pulps less than the new supply provided in 1942."

The Bellingham company reported net profit of $236,598, or 62c per common share, for the first six months of 1943, after provision of $292,569 for Federal taxes. Net profit in the first half of 1942 was $454,579, or $1.29 per common share, after Federal tax provision of $1,190,849.



POWELL RIVER COMPANY, POWELL RIVER, B. C., has long been devoting its machine shop largely to war work, as have many other pulp and paper mills on the Pacific Coast.

Above: A general view of the Powell River machine shop. At the right are steering engine bases for cargo ships on a planing machine in this shop. Below are: (left) Oxygen acetylene tank trucks made for the shipyards. (Center) Radial drill at work on a welded jig. (Right) Quadruple valves, prepared for test.

Powell River Keeps Busy Making Cargo Ship Equipment

POWELL RIVER COMPANY, one of the Pacific Coast's biggest pulp and paper producers, has ranged far afield in wartime production.

If anyone had suggested a few years ago that the British Columbia paper mill would be turning out, as a wartime sideline, such things as oxygen tank trucks, welded jigs, valves and steering engine bases for cargo ships he would have met with incredulity; yet such are actually among the company's recent products, and there will be more of them, possibly of even greater variety and remoteness from the normal type of output, as the war goes on.

Specific jobs done by Powell River Company in its munitions program include casting and machining parts for fire hydrants for air fields, machining steering gears and connecting rods, machining gib plates for steering engines, parts for telemotor steering gears, bevel gears and brackets, casting herring-bone gears for ships' windlasses, machining bull gears for the same, cast bases for steering machinery, assembly and testing of 3-inch and 2½-inch globe valves and gate valves.

When it became obvious that Canada would have to make maximum use of its plant capacity a survey was made of the facilities in the nation's gigantic pulp and paper industry. In British Columbia, the Powell River Company, because of its relative nearness to Vancouver, B. C., was the only organization that could offer substantial cooperation. Since then Powell River machine shops have been busy turning out jobs not only for pulp and paper production, but for ships and armaments.

Most of this work has been under the supervision of Resident Engineer Harold Moorhead and his chief assistant, Plant Engineer Archie Robertson. Mechanical Superintendent Ross Black has been in direct charge of the machine shop. But right through the organization, from draughting board to lathe, Powell River Company has been cooperating in war production and the accompanying pictures show some of the results.

The Canadian pulp and paper industry has long been busily engaged in giving assistance through its machine shops to the war shipbuilding program in the Dominion. Soon after the United States entered the war, the organized Washington, Oregon and California mills adopted a similar program.

Paper Mill Works On Bombing Planes

● Arrangements were recently completed between the Powell River Company, Powell River, B. C., and Boeing Aircraft of Canada whereby the paper company will asesmble small parts for bombing planes. More than a score of Powell River women have been in training for this specific job under the jurisdiction and instruction of War Emergency Schools of Canada, and many more will be added to the crew as the work develops.

Powell River Company is having its large No. 3 newsprint storage shed rearranged to meet the requirements of this work.

J. D. Zellerbach, Jr. Is Air Officer

● James D. Zellerbach, Jr., of Crown Zellerbach Corporation, San Francisco, was comissioned second lieutenant, United States Army Air Corps, at graduation exercises at Brooks Field, Texas, on August 30, and spent a brief vacation with his family in San Francisco recently before being assigned to active duty.

He is the son of J. D. Zellerbach, president of Crown Zellerbach Corporation, and for several years prior to enlisting for air corps training was attached to the industrial relations department of the pulp and paper company at San Francisco and Camas.

Dr. J. A. Hall of U. S. Forest Service Discusses Chemical Uses of Wood

● A group of interested lumbermen, Forest Service personnel, and research people from the pulp and paper industry, the lumber industry and educational institutions gathered at the University Club in Portland, Ore., September 1, to hear Dr. J. A. Hall, United States Forest Service, speak on the subject of chemical utilization of wood.

Arranged jointly by the West Coast Lumbermen's Association and the Pacific Northwest Forest and Range Experiment Station, with Stephen Wyckoff, director of the latter organization acting as chairman, the meeting was primarily for the purpose of discussing practical possibilities of chemical wood waste utilization in this region.

Dr. Hall, who has been in charge of the experimentation and development of processes for securing sugar and alcohol from wood, spoke to the group, giving a history of the problem, a description of what is being done in the United States, and finally answered pointed questions on practical operating problems.

World War I found alcohol being made from wood in the United States, said Dr. Hall, but after the end of the war, the competition of cheap molasses from the West Indies and the dwindling of the sawdust supply caused the project to be abandoned.

The Germans, in surveying the reasons for their loss of the first World War, decided that a lack of supply of alcohol and protein was one of the important factors leading to their defeat. Hence they were interested in the Scholler process of securing wood sugar and when the Nazi party came in power they took over this process and plants which were using it. Herr Schaeffer, who managed the German plant using the Scholler process, was unpopular with the Nazis and after a session in a concentration camp he was relieved of his rather considerable fortune and summarily sent from the country.

An Alcohol Shortage

● World War II immediately demonstrated the fallacy of the idea that there was a superabundance of raw materials in the United States. We had only 125 million gallons of alcohol in our national stockpile and because of the critical need for metals, we could not afford to build any more distilling facilities, Dr. Hall said. Consequently arrangements were finally made for the development of the Scholler process in this country and the experimental operation of an existing Scholler plant at Marquette, Wisconsin. The plant is now operating with good yields, Dr. Hall stated, and different species of wood are being tested.

Dr. Hall described the Scholler process in simple language as a treatment of wood with a dilute acid at high temperatures and under pressure. Two processes go on at the same time, he stated, the formation of sugar from cellulose and the destruction of these sugars that are formed. These go on at about the same rate under these conditions of temperature and pressure and Scholler controlled this, in order to save the sugars, by treating the wood with separate baths of acid. These he allowed to percolate through the charge of wood material, taking the sugar out, and then quickly cooling it and neutralizing the acid to stop the destruction of the sugars. This process he repeated until there was no more sugar in the wood.

In the German plants, this complete cycle ran about 24 hours per charge of wood in the percolator, but American methods have shortened this a great deal and the average at Marquette is under 8 hours per charge. The number of acid baths to completely remove the sugar runs about 16 to 18, Dr. Hall said. However, he pointed out the realization of sugar per bath follows a curve and the peak is reached at such a point that the charge of wood could be considered finished at about the tenth bath with a loss of only 10 per cent of the sugar in the wood. This would save about 30 per cent of the time. This fact combined with the comparative cheapness of wood in the United States and the lower investment cost, makes the American adaptation of the Scholler process more economically feasible.

In Dr. Hall's opinion a combinaion of Scholler's method with the American process of securing wood sugar would be successful. The American method used a rotary converter in which the wood and acid are mixed while the Scholler plant allows the acid to run through a charge of wood in a stationary chamber. The amount of metals required is the major handicap.

At Marquette, they are securing a four-to-five per cent sugar solution with 75 per cent of this fermentable and have hopes of getting this yield up to six per cent. This sugar solution, Dr. Hall explained, can be used for two purposes: the production of alcohol or the production of fodder yeast.

Beefsteak From Sawdust

The production of alcohol is accomplished by the growing of yeast on this sugar solution under conditions of a lack of air. If lots of air is supplied, the yeast grow rapidly but the alcohol is not produced. Thus the desire for alcohol or yeast determined the use of the sugar solution secured from the wood. There is a good possibility of growing a protein feed on a wood sugar base, Dr. Hull said, and "beefsteak out of sawdust" is entirely possible.

The protein food is made from the yeast by the addition of nitrogen and phosphorous and the resultant product is dried and caked. Dr. Hall thinks that the production of protein feed is economically adaptable to a much smaller supply of wood waste than a plant for the production of alcohol. Further, he feels that the fodder yeast can be made at a cost which will make it a practical stock feed after the war, with 45 to 50 per cent of protein and a high vitamin B content. The west has a cheap source of nitrogen, has the wood pile, and the stock raising industry, hence it appears a good business possibility to Dr. Hall.

Dr. Hall did not want to be quoted on probable costs of alcohol which can be produced from this process. Much depends on the length of time over which initial investments can be amortized and on the possible discovery of uses for the lignin which is left. Lignin has a use as fuel which will effect an economy but a higher use value is necessary for this by-product. A ton of wood will produce about 50 gallons of alcohol and 500 pounds of lignin, Dr. Hall stated, and what we get out of the lignin will tell the tale.

Dr. Hall discussed the use of lignin in plastics but felt that the final answer lay, not in the use of lignin as lignin, but as a source of other things. He likened it to coal tar, which years ago was in the same position and now is a source of so many important derivatives and cited that lignin is a source of phenols and methyl alcohol.

Questions were raised as to the potential markets for the alcohol which might be made from wood waste. Hall mentioned several factors which would have a bearing upon this, among which were the possible use of cheap alcohol as a

Left, Dr. J. A. HALL, United States Forest Service, and right, RAY HATCH, Director of Research, Pulp Division, Weyerhaeuser Timber Company at Portland, Ore., meeting September 1, at which Dr. HALL discussed processes of securing sugar and alcohol from waste.

component part of fuel for internal combustion engines, the future of synthetic rubber with its need of alcohol and the continued or increasing need for high-octane gas which would take petroleum otherwise used for production of alcohol.

Of the types of wood waste, it is natural to expect that the most accessible will be used first, Dr. Hall stated. If the construction of full-sized plant for the production of alcohol from wood waste were to be considered for the west, he further stated, preliminary work in the analysis of the available material, proper site, etc. would have to be accomplished.

In further discussion of a commercial operation for alcohol production Dr. Hall gave his opinion that a 5,000,000 gallon-per-year plant would be the smallest size for economic operation. This would require in the neighborhood of 400 tons of wood waste per day, part of which would be necessary for steam production. This size plant contrasts with the 20 to 30-ton per day requirements estimated by Dr. Hall for economic producion of fodder yeast from wood sugar.

A Hitherto-Untold Story Of Trans-Pacific Cargo Flights

In Pan American flights over the western ocean a total of 134,102 pounds have been saved by recoopering cargoes in paperboard containers . . . No shipments have been lost since the technique has been mastered.

RECOOPERING of air cargoes with lightweight paperboard containers is now an accepted practice for long distance air transportation all around the world.

It makes possible a tremendous saving in weight and space in airplanes, and this means that fewer planes have to be built before victory is achieved over the Axis powers.

Recoopering—the substitution of these paperboard containers for weight-and-space-consuming wooden cratings and other heavier containers—had saved a total of 134,102 pounds in the Pan American Airways trans-Pacific air cargo shipments from the early months of the war up to last July 1. This does not take into account similarly large savings in air cargo shipments over all the other oceans of the world.

The Pan American Airways reports that the total weight of air shipments in recent months has been cut 29 per cent by this method of recoopering.

Shortly after this practice was inaugurated at the Treasure Island, Calif., base of Pan American, a complete report on the procedure was published in this magazine (P. 34, September, 1942, PACIFIC PULP & PAPER INDUSTRY). It was then stated an investigation by the U. S. Navy was instrumental in starting the practice and that savings of 500 pounds per trip were made.

Story Told for First Time

In the month of June of this year the trans-Pacific division of the Pan American World Airways System saved 27,453 pounds — the equivalent of nine clipper cargo loads—in shipments destined for overseas points.

The hitherto-untold story of how the really urgent war materials, as well as passengers and mail, began moving from the United States to the far-flung Pacific areas by air within a few hours after the attack on Pearl Harbor can now be disclosed in part. Pan American clippers that formerly carried books and magazines, jewelry, glassware and clothing, soon began to be loaded with such vital shipments as airplane tires and submarine parts. Individual shipments of 500, 1,000 and 2,000 pounds became commonplace.

Divison Traffic Manager V. A. Kropff soon realized that many of these shipments were packed for protection against the rough handling that cannot be avoided in rail and steamship transportation. But air shipments aboard the clippers get special handling—in fact, a big shipment often can be loaded more safely and expeditiously aboard a plane if heavy packing can be discarded and the shipment broken up into several smaller units in paperboard containers.

A crew of six men is now kept constantly at work recoopering trans-Pacific air shipments at Treasure Island.

The smallest package handled by this method weighed only one ounce when it went aboard a clipper. It was a delicate electrical device that arrived in a wooden case weighing seven pounds. Removed from its case and packed in cotton in a box about the size of a cigarette package it was dispatched and arrived at its destination in perfect condition.

Speedy Work

Since the technique has been mastered, no shipment has been damaged or lost in Pacific air cargo operations.

Sometimes it is necessary to work at top speed after the arrival of a shipment in the cargo room in order to get it ready for a scheduled departure. An outstanding achievement of this sort was effected recently when a single shipment of 77 pieces weighing 11,802 pounds arrived within six hours of Clipper departure time. When the plane took off the shipment was aboard, but by that time it consisted of 199 pieces weighing 8,930 pounds. Exactly 2,872 pounds were saved in that high-pressure operation.

One of the biggest jobs ever tackled by the recoopers was a set of a dozen airplane wing tips. As boxed when received at Treasure Island they weighed 825 pounds each. Within 48 hours recoopers had reduced each package to 110 pounds—a total weight reduction of 7,128 pounds—by using paperboard containers.

Braun and Hatch At Wood Waste Session

• The subject of derivation of alcohol, wood sugar, fodder yeast and other products from pulp and paper mill and forest waste was discussed during the afternoon session of the meeting of the Oregon committee of the National Farm Chemurgic Council at the Portland Chamber of Commerce, on August 13.

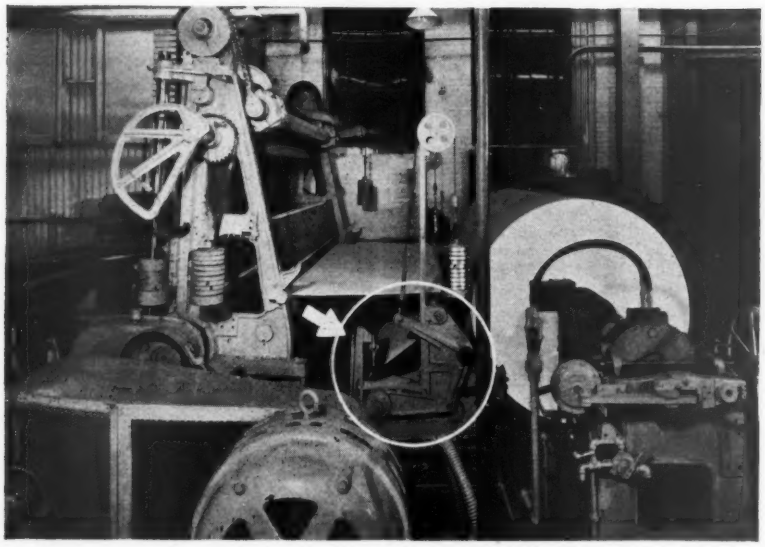
With Paul M. Dunn, Dean of the Oregon State College School of Forestry as leader, the panel listed Ray S. Hatch, director of research, Pulp Division, Weyerhaeuser Timber Company; Orville Miller, President, West Coast Lumbermen's Association; Dr. George Gleeson, Oregon State College, and C. C. Heritage, Weyerhaeuser Timber Company, among the speakers.

Preliminary discussion pointed out that the forest is the greatest producer of cellulose per acre per year of any vegetable growth. In a discussion of the different processes of securing wood sugars, Mr. Miller spoke of the work of the National Lumber Manufacturers association in securing the services of Dr. Schaeffer, an outstanding chemist, and their intent to bring him to the West for the investigation of the wood waste problem.

Stephen Wycoff of the Pacific Northwest Forest and Range Experiment Station stressed the need for an intregated utilization of all the products of the forest and warned against the possibility of the establishment of a competition with ourselves for the raw material of the forest acre. Wood for fuel was cited as a present use of wood waste for which there is a great demand and which might be seriously interfered with with the development of other uses for the same waste.

Carl E. Braun, vice president-manager of Hawley Pulp and Paper Company, expressed his company's interest in the costs of the processes of waste utilization which had been discussed.

First Installation of New Tension Control Made at Soundview Company



HERE IS SHOWN THE FIRST INSTALLATION OF AN AUTOMATIC TENSION CONTROL, developed at the Chicago office of Cameron Machine Company. It is shown on a rewinder, rolling specialty pulp at the Soundview Pulp Company, Everett, Wash.

The mechanism is described in the accompanying article on this page. The small valve in the circled area governs the amount of tension or breaking on the mill roll.

● An automatic tension control, said to be the first of its kind, was installed recently on a rewinder at the Soundview Pulp Company at Everett, Wash. This device, a development of the Cameron Machine Company of 61 Poplar St., Brooklyn, N. Y., was installed by Joe Scheuermann, western sales manager, and Tom Carter, service engineer of this organization, whose offices are at 111 West Monroe Street, Chicago.

The heart of this device, which automatically governs the amount of tension or braking on the mill roll, is the small valve which appears in the circled section of the picture above. This valve can be set for the particular type of stock which is being re-wound and will, from then on, govern the amount of braking required as the roll is unwound.

Compressed air is used to link this control valve with the brake mechanism. Air from the valve is fed into a diaphragm which, like the air booster brake on a motor truck, activates the brake mechanism.

Ahead of the automatic valve is a cam which controls the opening and closing of the valve, to control the amount of air fed into the brake diaphragm.

The operating cam is regulated by the tension roll moving from forward position to rear of travel.

Note: Weights are used to govern the amount of tension on the mill roll. Tension can be increased by adding more weights or decreased by removing weights.

The degree of adjustment possible with this automatic tension control is so fine that it is possible to regulate the bulk in over-creped crepe paper.

This control device was developed at the Chicago branch of the Cameron Machine Company. Mr. Scheuermann and Mrs. Carter personally took parts from there to the Soundview mill where they set up the first installation in a mill.

Pacific Coast Supply Company, Public Service Building, Portland, Ore., Ed Tidland, manager, is the Pacific Coast representative of the Cameron Machine Company.

Joins Sales Force

Thomas Smith, for 14 years with Columbia Mills, shade cloth manufacturers, has joined the sales force of Crown Zellerbach Corporation and has moved his wife and three children from Los Angeles to San Francisco, where he is attached to sales headquarters.

Many Shelton Mill Men Find Work At Home

● Rayonier Incorporated had not yet announced future assignments of principal executives of the closed Shelton, Wash., division when this issue went to press. The Shelton pulp mill was shut down indefinitely in early August owing to the log shortage and it was understood that this probably meant for the duration of the war.

The Bremerton, Wash., Navy Yard sent buses to Shelton immediately after the shutdown was announced, offering free rides to mill employes who wished to come in to Bremerton and sign up for jobs. Personnel directors from other pulp and paper mills, who called at Shelton, were not inclined to enter into this kind of competition. The Bremerton yard launched a labor drive in the entire peninsula region in mid-September.

According to reports from Shelton, most of the mill employes found jobs in local mills, logging camps, construction jobs and industries, preferring this to the long daily trip to the Navy Yard. About a dozen mill men found work with the new manganese plant of Olympic Mines, Inc., at Hoodsport, Wash.

Boeing Eyes Shelton Mill for Bomber Factory

● A Boeing Aircraft Company advertisement this month stated that Shelton, Wash., was a prospective site for a branch Boeing Flying Fortress factory.

At the time this issue went to press, it was known that the Boeing company had in mind converting the closed Rayonier pulp mill into an airplane factory.

This was described by Shelton community leaders as the only suitable area for such a factory, which probably would provide jobs for many former mill employes.

Wage Conference Called Sept. 13 in Portland

● The annual Wage Conference of the Pacific Coast Association of Pulp & Paper Manufacturers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and the International Brotherhood of Paper Makers was scheduled to resume in Portland, Ore., in the Public Service Building at 10 a.m. September 13.

The manufacturers were meeting the afternoon of September 12 at the Hotel Benson and on the morning of that same date the pre-conference meeting of the union group was called at the Heathman Hotel.

Conditions of a new uniform labor agreement were to be decided at this conference. Mill employes were still working under terms of the agreement which expired June 1 and any wage adjustments and terms of the new agreement were to be retroactive to that date. The Wage Conference met for five days in June but was recessed.

Kraft Advisory Committee

Members of a recently appointed sulphite and bleached kraft papers industry advisory committee of the Office of Price Administration include H. O. Nichols, Crown Zellerbach Corporation, and John H. Smith, Hawley Pulp & Paper Company.

Pacific Mills Is Headed By Experienced Operating Man

• The appointment of Paul E. Cooper, former deputy director and general manager of The Thames Board Mills, Ltd., at Purfleet, England, biggest board producing and converting factory in the British Empire, as vice-president and general manager of Pacific Mills, Ltd., with plants at Ocean Falls and Vancouver, B. C., announced in this magazine last month, gives that Crown Zellerbach subsidiary a high-ranking operative executive.

Mr. Cooper will have his office in Vancouver with J. A. Young, who continues as vice-president and treasurer, and Harry C. Pim, vice-president in charge of sales. The position of general manager is a newly-created one, and Canadian-born Cooper has general supervision over all operations of the company at its big mills at Ocean Falls and at the converting plant at Vancouver. He took over his new duties in the first week of September.

A resident of England since 1936, Mr. Cooper told PACIFIC PULP & PAPER INDUSTRY that he thoroughly enjoyed his work there, but he welcomed the opportunity of coming to the west coast and becoming a factor in British Columbia's rapidly progressing industry. After spending a day or so in Vancouver in August, he went east to bring his wife and family to the coast. The family came back to Canada from England in 1940, soon after the evacuation of Dunkirque.

The Thames Board Mills are located on the Thames estuary just outside London and on the bomber route of the German Luftwaffe during the critical days of 1940 and 1941, but despite air raids the huge mills continued in operation and did not lose a ton of production throughout the crisis.

PAUL E. COOPER, whose appointment as Vice President and General Manager of Pacific Mills, Ltd., directing operations at both Vancouver and Ocean Falls, B. C., was first announced in last month's issue of PACIFIC PULP & PAPER INDUSTRY.

Forty-three years old, Mr. Cooper received his early education in Ottawa and was graduated in civil engineering from McGill University. He is a member of the Engineering Institute of Canada and a member of the McGill Graduate Society.

His induction into the pulp and paper industry came twenty years ago when he joined the staff of the International Paper Company as construction engineer. He participated in the construction of many of International's mills and hydro-electric developments during the period of expansion in the 1920's, and in 1929 he was appointed resident engineer of the Piercefield mill of International Paper Company in northern New York state.

In 1933 Mr. Cooper was transferred to the Rumford mill of the Continental Paper & Bag Corporation at Rumford, Me., and subsequently became manager there. He resigned to accept appointment as chief engineer of the Thames Board Mills, Ltd., England. He was in charge of the design and construction of a new board mill at Warrington in Lancashire, and this plant was completed and put into operation in 1937, at which time Mr. Cooper took over its management.

In 1941 Mr. Cooper was appointed deputy director and general manager of the Thames Board Mills, with head office at Purfleet, Essex, the largest board producing and converting plant in the British Empire, producing all grades of board and converting into both solid and corrugated containers.

While living in Warrington, Mr. Cooper was president of the Chamber of Commerce and chairman of the Lancashire Waste Paper Recovery Association.

Mr. Cooper's appointment to Pacific Mills, Ltd., was decided upon by the board of directors of the British Columbia company comprising: Louis Bloch, C. A. Cotterell, E. W. Hamber, Mayne D. Hamilton, J. H. Lawson, A. B. Martin, H. C. Pim, W. E. Wintemute and J. A. Young.

70 Homes Built at Ocean Falls; Government Adjusts Wages

• Net profit of Pacific Mills, Ltd., operating pulp and paper and converting mills at Ocean Falls and Vancouver, B. C., was $869,427 during the year ended April 30, 1943, compared with $1,395,826 for the year previous, according to the annual report issued over the signature of President A. B. Martin.

Net sales last year totalled $8257,213 compared with $9,273,082 for the previous year and profit from operations was $1,631,859, compared with $2,793,904, with other income amounting to $345,167, compared with $31,704. Profit before deduction of taxes on income was $1,977,027, compared with $2,825,609. Canadian income taxes amounted to $852,300, compared with $1,575,923.

"The decrease of $1,162,044, or 42 percent, in profit from operations is largely due to lower production resulting from water power shortage in the earlier part of the year followed by government restrictions in respect to the manufacture of newsprint and to a further curtailment of shipments to export markets imposed by the global war," states Mr. Martin, "together with a continued upward trend in cost of manufacture, despite a substantial reduction in depreciation and depletion to conform with revised allowances for taxation purposes."

Pulp and paper manufactured for sale totalled about 108,000 tons, compared with 134,000 tons in the previous year.

Conditions In Canada

Labor conditions in Canada during the past year, states the report, have been difficult, principally due to the growth of the war industries coupled with the constant influx of men into the armed services. The expansion of the shipyards in the Vancouver area has resulted in a heavy demand upon British Columbia's manpower and some of the smaller centers, such as Ocean Falls, have seriously felt the drain.

As a result it has been necessary to employ men from other provinces following the harvest season to keep the plants operating. Women have been used extensively to assume work normally done by men, and have been instrumental in helping to maintain a record output of airplane spruce during the year. Housing conditions at Ocean Falls have been improved through the addition of seventy modern homes which have been completed at a cost of about $500,000.

All salary and wage rates in Canada have been frozen for approximately the past two years. Due to differences in rates in the company's mills and some adjacent industries, however, the Regional War Labor Board granted an increase to the hourly paid employees during the year. The Canadian cost of living bonus based on government index figures was increased to $3.63 per week during the period.

Mispley Attends Washington Session

• Robert Mispley, assistant technical director, Crown Zellerbach Corporation, Camas, Wash., attended the August 6 meeting of the Paper Industry's Technical Development Advisory Committee in Washington, D. C. This is the committe which has been engaged in seeking and sponsoring new war uses for paper and it is now headed by R. J. Zaumeyer of Wisconsin.

Mr. Mispley went as an alternate for his chief, William R. Barber, technical director of Crown Zellerbach Corporation, and while in the east visited the Carthage, N. Y., mill, National Paper Products Company Division, Crown Zellerbach Corporation.

Electric Boiler Installation Saves Oil At Powell River Company

● With the completion of the installation of the re-made three section electric boiler at Powell River Company's plant further saving in fuel oil has been effected.

Pulp grinder room No. 3 at Powell River, previously operated on electric power, has been closed down and the power tarnsferred to the electric boilers. These boilers will generate some 744,000 pounds of steam per 24-hours.

The changes will effect some 35 men who will be absorbed in other departments of the mill, principally in the grinder rooms Nos. 1 and 2 in which there will continue to be 38 hydraulically operated pulp grinders in service.

The steam generated by the boilers will be utilized to operate the sulphite digesters, the Flakt dryer in the Kamyr plant, the tram hoist line, the old paper machines and general heating of the old mill building.

Closing of No. 3 grinder room will eliminate the gas-driven locomotive on the pulp block train from the barker mill to the new grinder room.

The second-hand electric boiler was installed as an emergency wartime measure to conserve fuel oil which is needed for the war effort.

Due to existing wartime regulations in the production of newsprint, the plant is at present operating on a curtailed program. One of the effects of this curtailment is that the electric power load required by the mill is considerably decreased, with the result that the company's hydro-electric development, both at Stillwater and Powell River, is not being utilized to its full capacity and water is being wasted over the spillways of the dams.

This surplus power will be used to displace fuel oil for the generation of steam as soon as this new boiler is put into service. When this job is completed every effort will be made to conserve electrical energy for other purposes in order to divert it to use for steam generation.

In the installation of this boiler the use of vital materials has been kept to the absolute minimum, Powell River executives point out. The boiler installed was purchased second-hand from Kenogami, Que., where it had been in service for a great many years. A large amount of other equipment necessary for the boiler installation was also purchased second-hand or salvaged from materials on hand at Powell River.

Probably the most important change in operating method at Powell River and other plants since the war placed a premium on fuel oil has been the increased use of hogged fuel, most of which has been shipped by scow and barge from sawmills operating in the Vancouver-Fraser river areas.

RCAF Pilot Missing

● Pilot Officer Terrence (Terry) Field, only son of P. W. Field, manager of the Vancouver, B. C., office of Sidney Roofing & Paper Company, Victoria, B. C., has been reported "missing in air operations over Sicily," while serving with the Royal Canadian Air Force.

Terry Field was with the RCAF for more than a year in the African campaign.

CHIEF PETTY OFFICER ARTHUR E. DUKE of the famous Seabees, the front-lines construction battalion of the U. S. Navy. C PO DUKE left July 26 for Williamsburg Va., where he is going through the stiff training course of this outfit. He was Master Mechanic at Soundview Pulp Company, Everett, Wash., since 1936. His wife and children are making their home with relatives at Gig Harbor, Wash.

His address follows: Chief Gunner's Mate Arthur E. Duke, USNR, Platoon No. 160, Area E, Camp Perry, Williamsburg, Va.

Humphreys Appointed Manager of Sorg Co.

● Herve S. Humphreys, for the past 25 years associated with Dryden Paper Company at Dryden, Ont., has been appointed manager of Sorg Pulp Company, British Columbia kraft manufacturing subsidiary of Sorg Paper Company of Middletown, Ohio.

Mr. Humphreys arrived on the coast September 5 to take up his new duties, succeeding Herman Simpson, who resigned to join Western Gear Works in Seattle. Mr. Humphreys will make his headquarters at the company's Vancouver office in the Credit Foncier Building.

Announcement of the appointment was made in Vancouver by Vice-President E. T. Turner.

Mr. Humphreys has had an all-round experience with the pulp and paper industry and his background with the Dryden organization, which annually produces 10,000 tons of kraft wrapping, 3,500 tons of sheathing papers and 25,000 tons of kraft pulp, will be of advantage to him in his new field.

During his long service with Dryden, Mr. Humphreys was mill secretary in charge of sales and various other administrative duties.

London-born, Mr. Humphreys is a member of the Chartered Secretaries Institute of England.

Sorg Pulp Company's operations on the west coast are concentrated at Port Mellon, Howe Sound. During the past year extensive readjustments of the plant have been carried out with a view to giving more stabilized production and fuller utilization of the logs. Rated capacity of the mill is 2,000 tons a month.

Leaves for Caracas

John S. Nixon has resigned as assistant export manager of the Crown Willamette Paper Company and left in mid September for Caracas, Venzuela, where he will take over the managership of the agencies Caribes, a subisidiary of Otis, McAllister & Company.

New Waste Paper Campaign Is Organized

● Mills which are using waste paper in their production are urged to contact local officials of a newly organized General Salvage Branch of the War Production Board, and to advise them on what types of waste paper are wanted.

The WPB has inaugurated a campaign to intensify the collection of waste paper. But instead of the haphazard, poorly managed campaign in the early period of the war, which resulted in piling up of much waste that was never used the collections are to be made near mills which utilize the waste or where transportation is feasible.

The mills are requested to contact the executive secretaries of the campaign in their states and exchange ideas and information. WPB General Salvage Branch officials in Pacific Coast states and their offices follow:

NAME	TITLE	ADDRESS	TELEPHONE
Harry H. Fair	Regional Director	1355 Market Street, San Francisco	Klondike 2-2300
Col. F. M. Smith	Reg. Salv. Manager	" "	" "
Phil R. Kast	Reg. Chief, Gen. Salv.	" "	" "
A. H. Richards	Reg. Chief, Ind. Salv.	" "	" "
Don S. Neher	Reg. Chief, Scrap Proc.	" "	" "
E. F. Halloran	Reg. Chief, Spec. Proj.	" "	" "
Harold Brayton	Executive Secretary	" "	" "
Horace J. Brown	Asst. Exec. Secty.	" "	" "
Zack J. Farmer	Assoc. Exec. Secty.	1031 South Broadway, Los Angeles	Prospect 4711
Judge E. P. Murphy	State Chairman	City Hall, San Francisco.	
Wm. R. Finney	Executive Secretary	908 Bedell Bldg., Portland	Broadway 8471
Claude I. Sensanous	State Chairman	"	" "
Elmer J. Nelson	Executive Secretary	238 Stuart Bldg., Seattle	Elliott 0200
Arthur J. Lavell	Asst. Exec. Secty.	"	" "
J. C. Haley	State Chairman	"	" "

Nils G. Teren Named On Industry Committee

NILS G. TEREN, Vice President and General Manager of Oregon Pulp & Paper Company and Columbia River Paper Mills, who has been appointed to OPA's new Glassine and Greaseproof Paper Industry Advisory Committee.

● Nils G. Teren, vice president and general manager of Oregon Pulp & Paper Company and Columbia River Paper Mills, was one of seven business men in the glassine and greaseproof paper industry appointed on August 20 by the Office of Price Administration to a glassine and greaseproof paper industry advisory committee.

The purpose of the committee is to establish a working arrangement with the OPA to facilitate price stabilization of these products, now under general price regulation but soon to be put under specific regulation.

The organization meeting of the committee was held August 26 in Washington. Other members follow:

John J. Riegel, Riegel Paper Corporation, New York; Marvin Preston, Thilmany Pulp and Paper Company, Kaukauna, Wis.; Robert F. Nelson, Glassine Paper Company, West Conshohocken, Pa.; Folke Becker, Rhinelander Paper Company, Rhinelander, Wis.; Paul Moore, Westfield River Paper Company, Westfield, Mass., and Paul Hodgdon, Deerfield Glassine Company, Monroe Bridge, Mass.

Pacific Coast Paper Mills Employs More Women

● Pacific Coast Paper Mills of Washington, Inc., Bellingham, Wash., is now employing about fifty per cent women, according to F. J. Herb, vice president and general manager. This is only about a ten per cent increase over pre-war women employment but it is likely to be increased with Bellingham becoming a critical labor area.

Most machine jobs at this mill are considered too heavy for women but they have been put on a wonder machine. The building of a Boeing airplane factory at Bellingham is going to have a tightening effect on the labor situation, it is expected, even though the shipbuilding program there has been reduced.

Hoquiam Case Still In Labor Board's Hands

● The War Labor Board in Washington, D. C., still had in its files the CIO-AFL jurisdictional dispute among employes of the Hoquiam, Wash., division of Rayonier Incorporated in mid-September, according to officials of the Regional War Labor Board in Seattle.

A decision in this case has been awaited since the April 3-13, 1943, work stoppage in that mill, arising from dismissal of ten CIO men under terms of the Pacific Coast industry's agreement with the AFL.

It was explained that the national board may hand down a decision in the case itself, without referring it to the Seattle board. It was the local board, however, that reached a temporary agreement with the AFL returning the ten CIO men to their jobs on work permits pending a settlement. The local board in recent months heard officials of the two rival unions in regard to the matter when another work stoppage threatened.

Dexter Becomes Assistant to Denman

● Crown Zellerbach Corporation has announced appointment of Mr. Oakley W. Dexter of San Francisco, as an assitant vice president of the corporation, and his transfer to the Seattle office as assistant to Vice President D. S. Denman. Mr. and Mrs. Dexter were to make their home in Seattle after September 15.

Mr. Dexter recently returned to San Francisco from twenty months' duty in Washington, D. C., first as assistant director of purchases in the Office of Production Management, and later as coordinator of conservation for the United States Navy. He is a veteran of Crown Zellerbach Corporation, reaching the position with that company of director of purchases. He served one term as president of the Purchasing Agents Association of Northern California.

Camas Employes Return In Uniform

● Capt. Don Platt, formerly of the engineering department of the Camas, Wash., plant of Crown Zellerbach Corporation, was a recent visitor at Camas. A graduate of Oregon State College and a reserve officer, Platt entered the service in 1940. He had been stationed in Alaska but was transferred to another post.

Word has been received from Major J. A. Pettis, Jr., who has arrived in India. Pettis was formerly assistant storekeeper at Camas and was said to be the youngest major in the quartermaster's department in the U. S. Army. He was a major when he was 26.

O. B. Hanson, former electrician at Camas, has been heard from in the Tunisian area.

Former employees of the Crown Zellerbach Corporation who have been visiting at Camas include Ray Brown, who has been transferred to Gieger Field, Spokane, Wash.; Don Morgan, U. S. Army; Wilfred Ryan, U. S. Navy, who has been in six major engagements and was formerly a rewinder operator in the mill, and Fred Barron, U. S. Army, who has been in Canada on the Alcan Highway and was formerly in the bag factory department at Camas.

"Smoky" Farwell Ends Fibreboard Career

● Rounding out a quarter of a century of service with Fibreboard Products Inc., Lloyd "Smoky" Farwell has resigned as assistant superintendent of the fibre plant at Stockton, Calif.

Mr. Farwell has been active in the industry in foreign fields as well as on the home front. Twenty years before the Jap stab at Pearl Harbor, he went to Tokyo in 1921 to install fibre equipment in a new mill. In 1933 he was called to superintend the installation of a paster at Ocean Falls, B. C., and a converting plant at Vancouver, B. C.

Prominent in activities of Fibreboard employes, a topnotch bowler and an Izaak Walton of the first water, Mr. Farwell reluctantly relinquished ties of 25 years with the company.

Leona Van Arnam Becomes Mrs. Urquhart

● Leona Van Arnam, for eight years secretary to William R. Barber, technical director of Crown Zellerbach Corporation, with headquarters in Camas, Wash., was married recently to Rex Urquhart, employe of the Buckner Construction Company, Wishram, Wash. Mrs. Urquhart resigned her Camas position and went to Wishram to live. She has attended Pacific Section meetings of TAPPI and is known to many in that organization.

CAPT. JOHN THOMAS EVANS, ON LEAVE FROM HIS POSITION as foreman of the chart room, Longview, Wash., mill, Pulp Division, Weyerhaeuser Timber Company, was recently reported "somewhere in the Alaska area" with a U. S. Army Coast Artillery Anti-Aircraft Division.

Captain EVANS' wife is working in the postoffice in an army air base at Walla Walla, Wash. They have been married six years. His parents, MR. AND MRS. THOMAS EVANS, live at 2943 Dover St., Longview, and the father has been employed at the pulp mill there for twelve years. The parents came to this country from England.

Chemical Effects Of Sulphite Waste Liquor in Sea Water

By IRWIN A. PEARL*

THE location of pulp mills in the Puget Sound region has repeatedly involved consideration of pollution by pulp mill effluent. The discharge of sulphite waste liquor has been deemed by some as especially detrimental to certain forms of marine life, and several extensive investigations[3, 4, 6, 7, 10, 12] have been made to ascertain the effects on fish and shell fish. Toxic and lethan effects are reported when high concentrations of the waste liquor in sea water were studied. Recent field studies[2,11] show, however, that such concentrations occur only in close proximity to the pulp mills and than only in the surface layers, and thus do not block the passage of fish to the entering rivers. Nevertheless, the fear has been expressed** that even minute traces of waste liquor over longer periods of time might be detrimental to the lower forms of life, thereby creating unfavorable environmental conditions for fish and shell fish.

For the purpose of determing the effect of pulp mill effluent on the lower forms of life which constitute the food sources of oysters and other fauna, chemical and bacteriological studies were undertaken. The effect of various concentrations of sulphite waste liquor on the chemical properties of sea water and the growth of microorganisms in both aerated and unaerated sea water were determined. The chemical observations are discussed in this paper. * * *

DESCRIPTION OF EQUIPMENT

A four by ten foot water thermostat was installed under three large windows on the west side of the laboratory. The thermostat was fitted with a platform which enabled the clear gallon jugs used for all dilutions to get the maximum amoun of light. An aeration system was prepared for supplying sterile air to certain of the bottles. Each bottle to be aerated was fitted with a tightly fitting rubber stopper through which passed the aeration tube (reaching to the bottom of the bottle) and a short piece of 12 mm. glass tubing to permit sampling. The piece of wide tubing was stoppered with sterile cotton. The unaerated bottles were stoppered with sterile cotton. All sampling was performed with sterile pipets under aseptic conditions.

SULPHITE WASTE LIQUOR

The sulphite waste liquor used in these experiments was a digester strength liquor of hemlock origin, and was kindly furnished by the Puget Sound Pulp and Timber Company of Bellingham, Wash. Its complete analysis according to the method of Partansky and Benson[8] is given in Table 1.

TABLE 1
Analysis of Liquor Used
(Data in grams per liter)

Total solids	132.11
Residue on ignition (as sulphates)	20.08
Calcium as CaO	8.30
Total sulphur as S	9.70
Sulphate as SO^3	1.63
Free SO_2	1.02
Loosely combined SO_2	5.80
Sulphone Sulphur as SO^2	11.26
Permanganate oxygen consumed	153.9
Total volatile acids	13.85
Formic acid	0.64
Acetic acid	13.21
Methanol	0.81
Ethanol	0.189
Acetone	0.112
Furfural	0.231
Lignin (Methoxyl method)	66.7
Total sugars	19.99
Pentoses	3.01
Hexoses	16.98

EXPERIMENT ONE

● Experiment one was started on March 24, 1941. The sea water was collected at Edmonds, Wash. at high tide. It had the following constants at the time of sampling.

TABLE 2
Sea Water Constants at Time of Sampling

Temperature	11° C.
pH	7.8
Chlorinity	16.27 g./kilo
Dissolved Oxygen	7.96 mg./liter
Permanganate Oxygen Consumed	9.34 mg./liter

Dilutions of sulphite waste liquor were made according to the set up for experiment one given in Table 3. All dilutions were three liters in volume. The bottles were placed in the thermostat at 13½° C., and the aeration apparatus was connected. The first samples were taken 2¼ hours after the sea water was obtained. The temperature of the thermostat was maintained at 14° ± 1° for the duration of the experiment. All dilutions were prepared by adding from a buret the exact quantity of sulphite waste liquor to the sterile bottles, and then diluting with sea water to three liters with good mixing.

Permanganate oxygen consumed and pH values were determined on the aerated dilutions and dissolved oxygen and pH values were determined on the unaerated dilutions at regular intervals. Bacterial counts were made on both the aerated and unaerated dilutions at the same regular intervals. Samples were taken for a period of approximately three weeks at which time all the dilutions were thoroughly shaken and scrubbed for diatom, protozoa, and detritus sampling.

ANALYTICAL RESULTS

The chemical analytical results are shown in Table 4 and Figures 1-4. The pH values were determined by means of La Motte colorimetric pH sets, and were read to the nearest 0.1 pH. The concentrations of sulphite waste liquor studied in this experiment were

LITERATURE CITED

[1]Benson, H.K. and Hicks, J.F.G., Ind. Eng. Chem. Anal. Ed., 3, 30 (1931).
[2]Benson, H.K., Kobe, K.A., and Scott, R.H., Pac. Pulp, Paper Ind., 15, No. 12 (1941); 16, No. 1 (1942).
[3]Ebeling, G., Z. Fisch., 30 (3), 341 (1932).
[4]Hopkins, A.E., Galtsoff, P.S., and McMillin, H.C., U.S. Bur. Fish. Bull., 6 (1931).
[5]Liebmann, H., Gesundh.-Ing., 62, 515 (1939).
[6]Marsh, M.C., U.S. Geol. Surv., Water Supply and Irrig. Pap. No. 192, 337 (1907).
[7]Nightingale, H.W. and Loosanoc, V., Am. Fish. Soc. Trans., 58, 232 (1928).
[8]Partansky, A.M. and Benson, H.K., Paper Trade J., 102 (7), 29 (1936).
[9]Standard Methods of Water Analysis, American Public Health Association, 1936, page 144.
[10]Townsend, L.D. and Earnest, D., Proc. Sixth Pac. Sci. Congr., page 345 (1940).
[11]Townsend, L.D., Eriksen, A., and Cheyne, H., Pollution of Everett Harbor, Wash. State Poll. Comm., Bull. No. 3 (1941).
[12]Winter, A.O., Finnish Paper Timber J., 21, 636 (1939).

*Research Associate, Department of Chemistry, University of Washington, when this investigattion was made. Now a research assistant at the Institute of Paper Chemistry, Appleton, Wis.

**Hopkins, Galtsoff, and McMillin. 1931. Effects of Pulp Mill Pollution on Oysters. U. S. Bur. Fish. Bull., 6, 167.
"Continuous exposure even in very weak concentrations of this toxic substance which fails to produce any visible effect immediately may cause a general weakness of the organism."

***The microbiological studies were made by Dr. B. S. Henry of the Bacteriology Department of the University of Washington, now on active duty in the U. S. Army.

Table 3

Set Up for Experiment 1

1/1,000*	1/5,000	1/25,000	1/50,000	1/100,000	Controls
I_1	I_2	I_3	I_4	I_5	C_I
II_1	II_2	II_3	II_4	II_5	C_{II}
III_1	III_2	III_3	III_4	III_5	
IV_1	IV_2	IV_3	IV_4	IV_5	C_{IV}

C_I -- Sea water plus air

C_{II} -- Sea water plus air

C_{IV} -- Sea water

I -- Sea water plus sulfite waste liquor plus air (for diatoms).

II -- Sea water plus sulfite waste liquor plus air.

III -- Sea water plus sulfite waste liquor plus air.

IV -- Sea water plus sulfite waste liquor.

* Concentrations are indicated as parts of digester strength sulfite waste liquor in parts of sea water.

low enough so that no interference with standard pH colors due to sulphite was obtained. Dissolved oxygen was determined by the unmodified Winkler procedure as outlined in the A.P.H.A.[9] Permanganate oxygen consumed was determined by the method of Benson and Hicks.[1] In Table 4 the samples are designated by Arabic numerals corresponding to Arabic subscripts in Table 3. $KMnO^4$ represents Permanganate Oxygen Consumed values for the aerated samples.

The actual samples analyzed are indicated in the figures by numbers corresponding to those in Table 3. In all figures in which only a few of the dilutions are indicated, the other dilutions gave data substantially with that of the control.

EXPERIMENT TWO

● Experiment two was started on April 23, 1941. The sea water was collected at Edmonds, Wash. at high tide. This sea water had the following constants at the time of sampling.

TABLE 5

Sea Water Constants at Time of Sampling

Temperature	11° C.
pH	7.85
Chlorinity	16.25 g./kilo
Dissolved Oxygen	8.72 mg./liter
Permanganate Oxygen Consumed	3.79 mg./liter

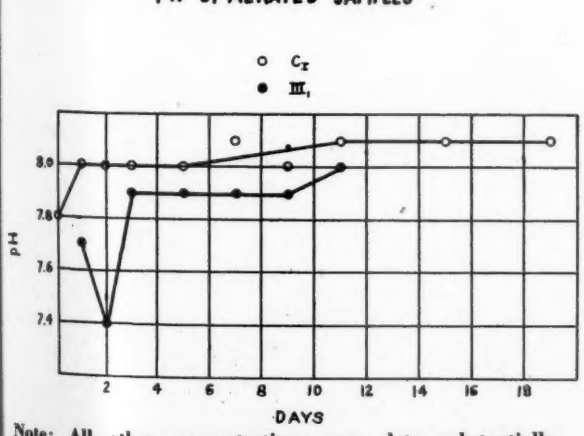
Three liter dilutions were made according to the set up for Experiment 2 as given in Table 6 in exactly the same manner as those in Experiment 1. The aeration was started 4 hours after the samples were collected. The temperature of the thermostat during this experiment was maintained at 16° ± 1°

ANALYTICAL RESULTS

In this experiment the analytical results were obtained by the same methods as those of Experiment 1 except the pH values. Because the presence of appreciable quantities of sulphurous acid and sulphite has a very definite effect on the colorimetric pH indicators the pH values in this experiment were determined by the use of a Beckman pH meter. The values were reported to the nearest 0.1 pH unit. The analytical results of Experiment 2 are given in Table 7 and Figures 5-8.

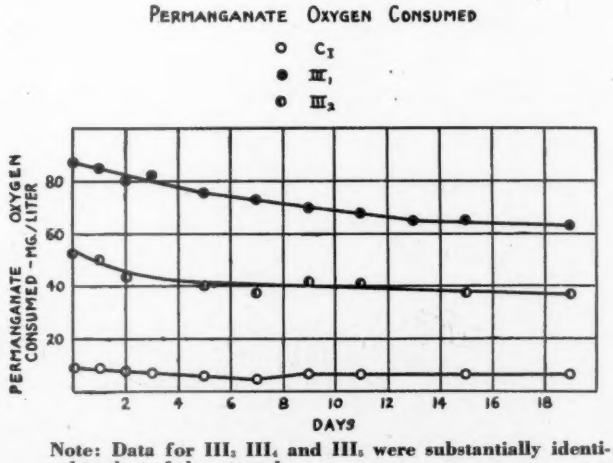
The legend for Figure 6 (Per-

FIGURE 1



Note: All other concentrations gave data substantially identical to that of the control.

FIGURE 2



Note: Data for III_2 III_4 and III_5 were substantially identical to that of the control.

Table 4

Experiment 1 -- Chemical Analyses

	No. of days	1	2	3	4	5	Control
Aerated pH	0						7.8
$KMnO_4$, mg./l.		87.1	52.3				9.34
Unaerated pH							7.8
Dissolved O_2, mg./l.		6.20	7.71				7.96
Aerated pH	1	7.7	7.9	7.9	8.0	8.0	8.0
$KMnO_4$, mg./l.		85.4	50.0				9.14
Unaerated pH		7.3	7.7	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		6.40	7.45	8.29	9.33	9.33	9.33
Aerated pH	2	7.4	7.8	7.9	8.0	8.0	8.0
$KMnO_4$, mg./l.		79.4	43.6				8.18
Unaerated pH		7.9	7.9	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		4.18	6.51	7.33	8.89	8.92	8.92
Aerated pH	3	7.9	7.9	7.9	8.0	8.0	8.0
$KMnO_4$, mg./l.		82.4					7.22
Unaerated pH		7.9	7.9	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		3.95	6.61	8.57	8.95	8.95	8.95
Aerated pH	5	7.9	8.0	8.0	8.0	8.0	8.0
$KMnO_4$, mg./l.		75.8	39.7				6.23
Unaerated pH		7.2	7.8	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		3.61	7.52	9.03	8.99	8.99	9.03
Aerated pH	7	7.9	8.0	8.0	8.0	8.0	8.1
$KMnO_4$, mg./l.		73.1	37.6				4.81
Unaerated pH		7.0	7.8	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		2.71	8.21	9.76	9.15	9.80	9.76
Aerated pH	9	7.9	8.0	8.0	8.0	8.0	8.0
$KMnO_4$, mg./l.		69.5	41.8	7.56	7.56	7.56	7.25
Unaerated pH		7.2	7.8	7.9	7.9	7.9	7.9
Dissolved O_2, mg./l.		3.76	8.27	8.80	8.84	8.84	8.84
Aerated pH	11	8.0	8.1	8.1	8.1	8.1	8.1
$KMnO_4$, mg./l.		67.8	41.1	7.16	7.16	7.16	7.16
Unaerated pH		7.3	7.9	8.0	8.0	8.0	8.0
Dissolved O_2, mg./l.		3.80	8.16	8.65	8.65	8.69	8.69
Aerated pH	15	8.1	8.1	8.1	8.1	8.1	8.1
$KMnO_4$, mg./l.		64.7	37.2	6.54	6.46	6.46	6.46
Unaerated pH		7.3	8.0	8.0	8.0	8.0	8.0
Dissolved O_2, mg./l.		3.76	8.20	8.62	8.66	8.62	8.66
Aerated pH	19	8.1	8.1	8.1	8.1	8.1	8.1
$KMnO_4$, mg./l.		63.1	36.9	6.30	6.38	6.30	6.30
Unaerated pH		7.3	8.0	8.0	8.0	8.0	8.0
Dissolved O_2, mg./l.		Aerated					

manganates Oxygen Consumed of Aerated Samples) is the same as that of Figure 5 (pH of Aerated Samples), and that for Figure 7 (pH of Unaerated Samples) is the same as that of Figure 8 (Dissolved Oxygen of Unaerated Samples.)

DISCUSSION

● **Experiment 1**—The data of Experiment 1 show conclusively that concentrations of sulphite waste liquor less than one part of digester liquor in five thousand parts of sea water have no effect on the chemical constants of the sea water under both aerated and unaerated conditions.

pH of Aerated Samples—Of all the dilutions in this experiment, only the highest concentration (1/1,000) showed any difference from the control. In that instance the immediate lowering of the pH was probably due to the acidity of the bisulphites and sulphurous acid. However, rapid oxidation and neutralization of these products rapidly caused the pH to rise.

Permanganate Oxygen Consumed of Aerated Samples—The two highest concentrations showed a very slight gradual decrease in oxygen consumed values. This was probably due to complete oxidation of the sugars and oxidizable organic matter with liberation of carbon dioxide.

pH of Unaerated Samples—Only the highest concentration exhibited any marked difference from the control. After the neutralization of the immediate acidity of the bisulphites and sulphurous acid the lowering of the pH after the third day was probably due to acid forming fermentations of the sugars and easily oxidizable organic matter reaching a maximum at six days, and the gradual rise afterward shows the oxidation of these organic acids with accompanying loss of acidity.

Dissolved Oxygen of Unaerated Samples—Both the 1/1,000 and the 1/5,000 dilutions lowered the dissolved oxygen content somewhat. However, the experiment indicates that at these concentrations of sulphite waste liquor, enough oxygen is taken from the atmosphere at the surface of the liquid without aeration and from the oxygen liberated by diatom growth to keep a positive dissolved oxygen content during the

Table 6

Set Up for Experiment 2

1/400	1/600	1/800	1/1,000	1/2,000	Controls
$2II_1$	$2II_2$	$2II_3$	$2II_4$	$2II_5$	C_{2II}
$2IV_1$	$2IV_2$	$2IV_3$	$2IV_4$	$2IV_5$	C_{2IV}
$2V_1$	$2V_2$	$2V_3$	$2V_4$	$2V_5$	C_{2V}

C_{2II}-- Sea water plus air.

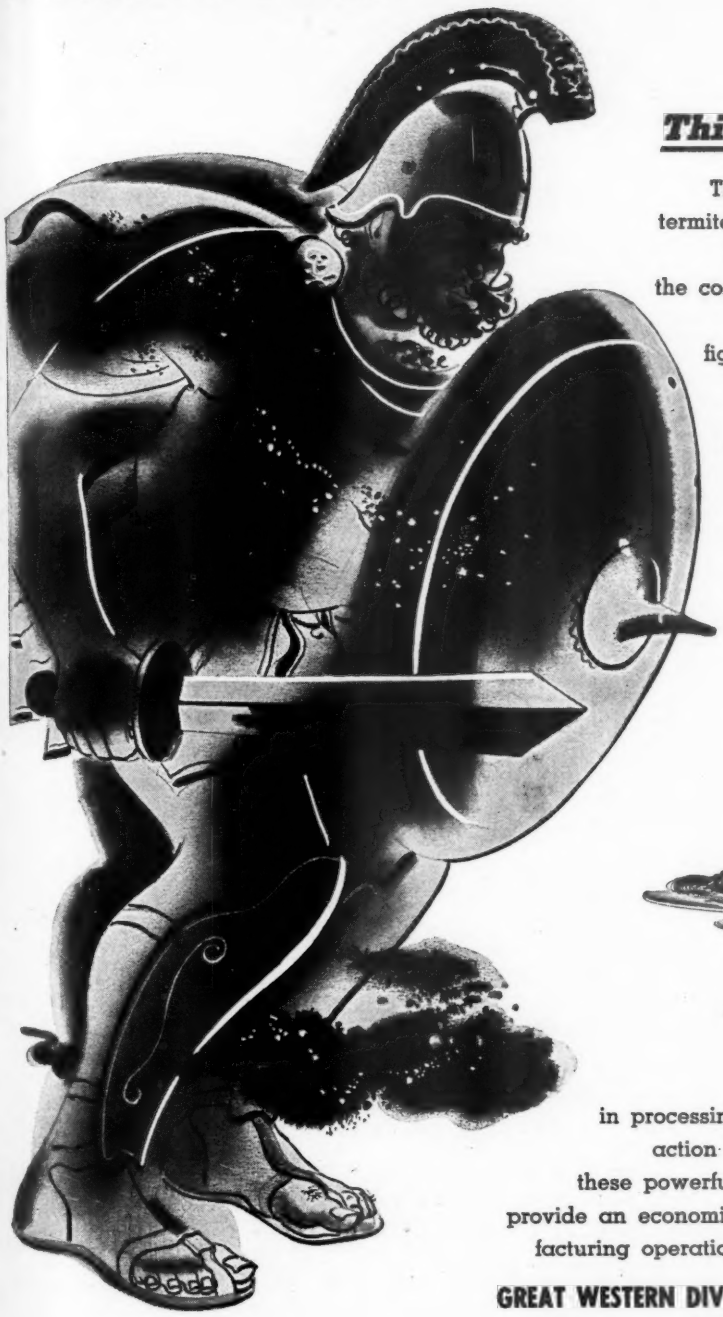
C_{2IV}-- Sea water.

C_{2V} -- Sea water.

2II -- Sea water plus sulfite waste liquor plus air.

2IV -- Sea water plus sulfite waste liquor.

2V -- Sea water plus sulfite waste liquor.



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period of oxidation of the organic matter. Therefore, it is probable that at these waste liquor concentrations under natural conditions of aeration existing in sea water, the dissolved oxygen content will always be sufficient for marine life.

● **Experiment 2**—The sea Water used in Experiment 2, although having the same temperature, pH and chlorinity as the sea water used in Experiment 1, had a markedly different dissolved oxygen content and permanganate oxygen consumed value. These samples were taken at one month intervals. In addition to the change in light conditions during this month the quantity and types of organisms present in the sea water undoubtedly changed considerably.

pH of Aerated Samples—These results show that although the sulphite waste liquor causes an immediate lowering of the pH due to the acidity of the sulphurous acid and bisulphites, aeration and aerobic fermentation cause the pH to rise. Therefore, it is evident that no acidic substances are formed during the oxidation of the oxidizable organic matter in the waste liquor in sea water in the presence of excess air or oxygen.

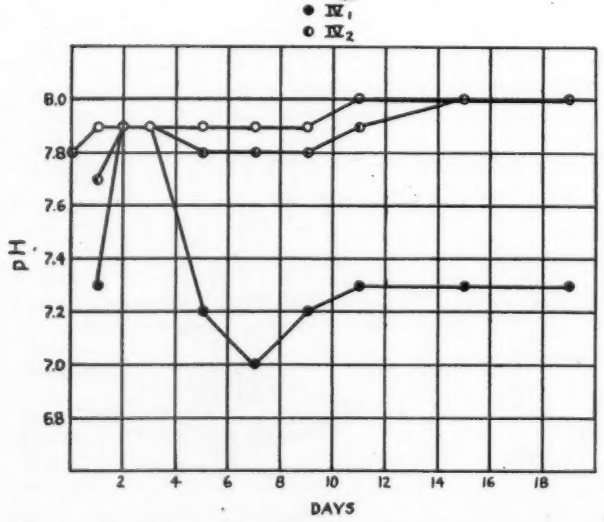
Permanganate Oxygen Consumed of Aerated Samples—These data indicate that the amount of organic matter in the water changes very little with time. The total amount of organic matter as evidenced by

Table 7

Experiment 2 -- Chemical Analyses

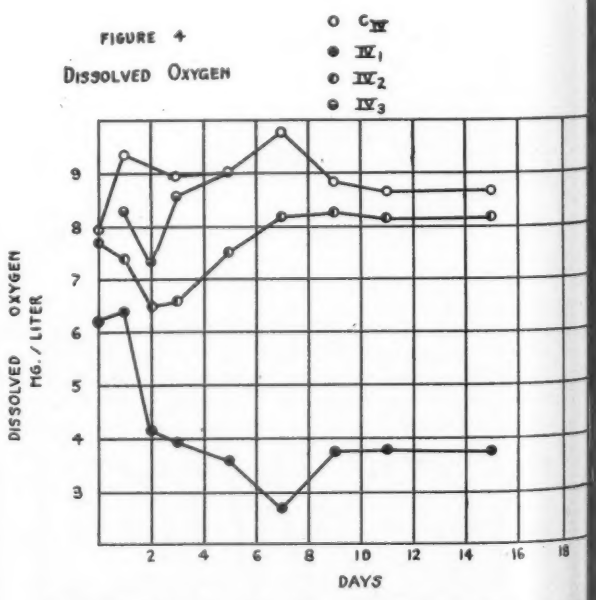
	No. of days	1	2	3	4	5	Control
Aerated pH	0	7.1	7.2	7.4	7.45	7.5	7.9
$KMnO_4$, mg./l.							3.79
Unaerated pH		7.1	7.2	7.4	7.45	7.5	7.9
Dissolved O_2, mg./l.		4.13	5.34	6.39	6.80	7.52	9.09
Aerated pH	2	7.7	7.9	7.9	7.9	7.9	8.0
$KMnO_4$, mg./l.		250	214	132	90	68	4.56
Unaerated pH		6.8	6.9	7.1	7.2	7.3	7.9
Dissolved O_2, mg./l.		0.26	0.90	3.64	3.80	4.40	8.25
Aerated pH	3	7.7	7.9	7.9	7.9	8.0	8.0
$KMnO_4$, mg./l.		251	209	128	111	64	4.74
Unaerated pH		6.7	6.9	7.0	7.1	7.2	8.0
Dissolved O_2, mg./l.		0.24	0.50	1.22	2.00	2.21	8.77
Aerated pH	5	7.8	7.9	7.9	7.9	8.0	8.1
$KMnO_4$, mg./l.		246	196	89	108	63	4.03
Unaerated pH		6.5	6.9	6.9	7.1	7.2	8.1
Dissolved O_2, mg./l.		0.23	0.34	0.41	1.58	0.79	9.52
Aerated pH	8	7.8	7.9	7.9	7.9	8.1	8.1
$KMnO_4$, mg./l.		254	197	125	123	63	4.42
Unaerated pH		6.4	6.9	6.9	7.1	7.2	8.1
Dissolved O_2, mg./l.		0.00	0.19	0.56	0.79	0.68	9.07
Aerated pH	10	7.8	7.9	7.9	7.9	8.1	8.1
$KMnO_4$, mg./l.		257	192	121	103	63	4.16
Unaerated pH		6.3	6.9	6.9	7.2	7.1	8.1
Dissolved O_2, mg./l.		0.00	0.20	0.46	0.87	0.99	8.81
Aerated pH	12	7.8	7.9	7.9	7.9	8.1	8.1
$KMnO_4$, mg./l.		262	189	115	101	64	4.50
Unaerated pH		6.5	7.0	7.0	7.3	7.3	8.1
Dissolved O_2, mg./l.		0.00	0.26	0.41	3.31	2.63	8.87
Aerated pH	15	7.8	7.8	7.9	8.0	8.1	8.1
$KMnO_4$, mg./l.		251	189	115	99	61	4.03
Unaerated pH		6.8	7.1	7.2	7.5	7.5	8.1
Dissolved O_2, mg./l.		0.00	3.26	4.28	5.34	5.68	9.10
Aerated pH	17	7.8	7.9	7.9	8.0	8.1	8.1
$KMnO_4$, mg./l.		242	188	116	96	58	3.39
Unaerated pH		6.9	7.1	7.3	7.6	7.6	8.1
Dissolved O_2, mg./l.		0.00	3.26	4.28	5.34	5.68	9.10

FIGURE 3 pH OF UNAERATED SAMPLES



Note: The data for IV_4 and IV_5 were substantially identical to that of the control.

FIGURE 4 DISSOLVED OXYGEN



Note: The data for IV_2, IV_4 and IV_5 were identical with that of the control.

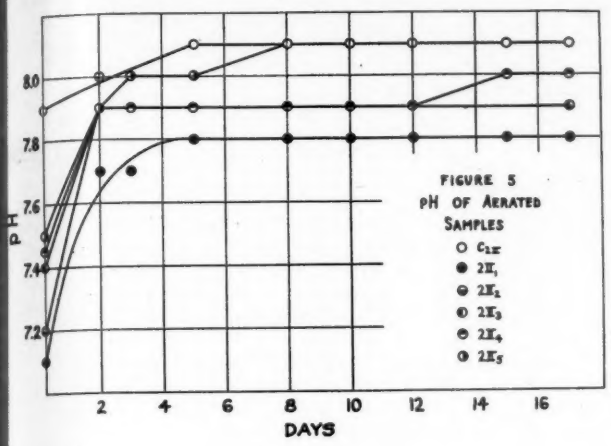


FIGURE 7 - pH OF UNAERATED SAMPLES

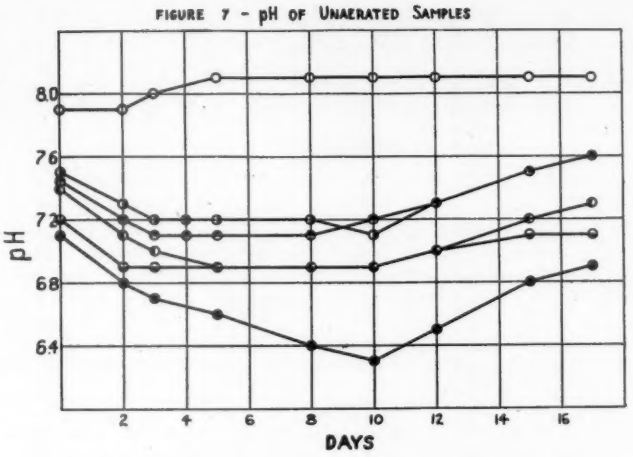
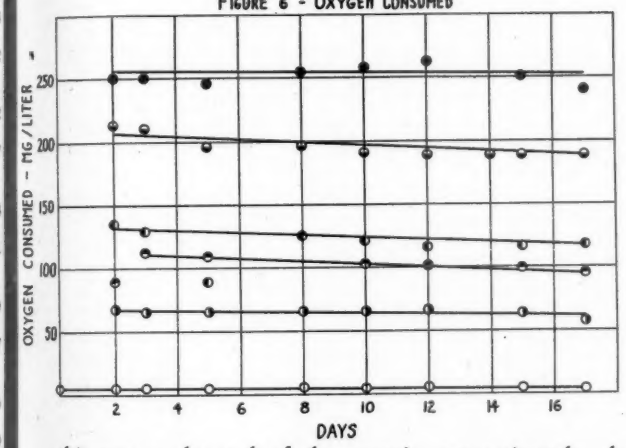
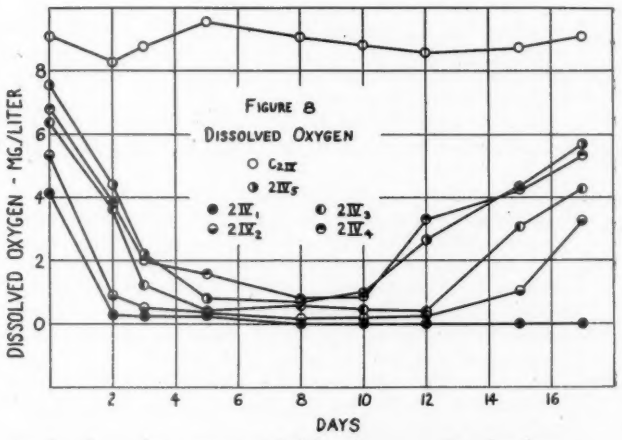


FIGURE 6 - OXYGEN CONSUMED





this test at the end of the experiment (three weeks) was just a little less than that originally present. An explanation of this fact might lie in the fact that the sugars and oxidizable organic matter are oxidized but not all the way to carbon dioxide and water. A more probable explanation lies in the inadequacy of the permanganate oxygen consumed method for measuring the amount of organic matter. The apparent discrepancy in these data and the data of Experiment 1 is accounted for by the difference in incubation temperatures and the difference in sea waters which was noted above.

Dissolved Oxygen of Unaerated Samples—The control in this study remained substantially constant. All the dilutions exhibited an initial lowering of dissolved oxygen due to the immediate oxygen demand of inorganic sulphites and then rapidly approached a minimum of dissolved oxygen during the rapid bacterial oxidation of the sugars and oxidizable organic matter. The sharp decline continued for approximately three days and then remained constant for about a week. The highest concentration (1/400) became void of dissolved oxygen. After approximately the tenth day the dissolved oxygen began to increase in all dilutions except the highest concentration due to increased activity on the part of the diatoms. The 1/400 concentration failed to show any increase even after 19 days. However, after 28 days, the dissolved oxygen had increased to 3.42 mg./liter. Evidently a new or different bacterial growth began during the last time interval and did not use up the oxygen that could be absorbed from the atmosphere and that was liberated from the diatom growth. The net result was a positive dissolved oxygen. Any discrepancies between the results of this experiment and those of Experiment 1 are probably due to differences in the sea water samples and to the differences in light conditions during the courses of the experiments.

pH of Unaerated Samples—The control in this experiment remained practically constant. All the dilutions showed a preliminary drop over a three day interval, probably due to acid fermentation, and after an interval of a week, they all showed a rise in pH. This drop and rise corresponds to the drop and rise in dissolved oxygen content. The rise was probably due to the further oxidation of acidic substances due to the increase of available oxygen as shown by the dissolved oxygen values. The highest concentration continued to drop in pH for ten days before starting to rise.

In the foregoing discussion all conclusions based upon bacterial or diatom growth were supported by microbiological counts.

Recently Liebmann[5] in a biological and chemical investigation of the pollution in the Bleiloch reservoir studied the decomposition of sulphite waste liquor diluted with water from the Upper Saale River. Although the object of his investigation was different from the investigation reported here Liebmann studied several of the same chemical constants, namely, pH of unaerated samples, dissolved oxygen, and permanganate oxygen consumed. Because Liebmann's experiments were not carried out under aseptic conditions and because of differences in concentration ranges, incubation temperatures, times of reaction, aeration conditions, and types of water with corresponding differences in organisms present it is impossible to correlate the results of the two investigations.

Acid Making In the Sulphite Pulp Industry

by A. H. LUNDBERG*

CHAPTER II -- Continued

In response to numerous inquiries it may be said that publication of Mr. Lundberg's articles in book form is contemplated next year. The installments, which began in the January issue, will continue for a number of months.

VIII. DIGESTER RELIEF GASES

The rate of flow and strength of the relief gases from a digester is variable depending on working procedure followed.

Generally all the digesters in a mill are connected to a common relief header and thus the rate of flow and strength of the gases entering the reclaiming system will be governed by the number of digesters, their spacing time and operation. With a large number of digesters on the line, or rather the shorter the spacing time between the digesters employed, the less pronounced is the flow fluctuations.

The amount of SO_2 gas in the relief depends on the initial acid strength and the SO_2 requirement of the individual mills.

Besides SO_2 gas there is always present in the relief a certain amount of inert gases and, of course, water vapor. Seemingly, a relatively large amount of carbon dioxide, CO_2, is present. Any acid produced from carbonates will naturally contain a certain amount of dissolved CO_2 as CO_2 is slightly soluble in water. However, the CO_2 from this source cannot account for the large amount found in the relief gases. Thus CO_2 must be a reaction product from the cooking operation. The literature does not give any definite information about the amount CO_2 evolved.

Mr. E. L. Lamb in his paper "Problems in the Making of Sulphite Acid Introduced by the Use of Chip Packers," Paper Trade Journal, T.A.P.P.I. Section Feb. 23, 1939, reports the finding of following flow of inert gases in cubic feet at S.T.P. per ton of wood cooked.

Carbon Dioxide, CO_2	224
Oxygen, O_2	18
Nitrogen, N_2	118
	360

The mill studied, operated with the Chemipulp hot acid recovery system.

That the amount of inert gases relieved from a digester is always as high as reported by Mr. Lamb, is not born out by tests made in some west coast mills. At Puget Sound Pulp & Timber Company, Bellingham, Wash., for instance, the maximum flow of inert gases was found to be only 280 cubic feet S.T.P. per ton of pulp (see following paragraph). Mr. Lamb's figures based on 46 per cent pulp yield is 782 cubic feet per ton of pulp.

There is, however, no doubt that the amount of inert gases in the relief is appreciable, but variable, depending on the degree of delignification of the wood and the handling and operation of the digesters.

The importance of knowing the actual amount of the inert gases is shown on Tables XXII, XXIII and XXIV.

Table XXII. shows the effect on the percent SO_2 of the gases leaving the digester for various strengths cookng acid and amounts of inert gases.

Table XXIII shows the effect on the per cent total SO_2 requirement of the raw acid for various return gas strengths.

Table XXIV shows the effect on the per cent combined SO_2 in relation to the per cent total SO_2 requirement of the raw acid for various return gas strengths and final acid temperatures when a 17 per cent SO_2 burner gas is produced (also see Charts XXI-XXIV.).

The writer is indebted to Mr. N. W. Coster, Technical Director of the Soundview Pulp Company, Everett, Washington, for the following data and information:

The Everett mill had at the time of the tests a six digester hookup, Unit I., in general as per flow sheet No. 8, and a separate six digester hookup, Unit II., also as per flow sheet No. 8 with the exception that the digesters were equipped with indirect heating and circulating system. No relief coolers (item 10) are in use. The two units were operated entirely separate from each other with separate raw acid systems (Jenssen two tower acid system).

Gas Flow Investigation

The series of data were obtained at the gas line connecting the reclaiming tanks to the pressure side of the acid plant gas fans. The flow was measured by means of a Pitot tube and at the same time the sulphur dioxide and carbon dioxide concentration of the gas was determined by means of an Orsat apparatus. Values for each unit were obtained at approximately fifteen minutes intervals. The testing periods covered three or more complete cycles of gas return for each unit. These tests were made during a period when the temperature

*Seattle, Washington. Mr. Lundberg is Western Manager, G. D. Jenssen Company, New York City.

TABLE XXII

Sulphur consumption 250 lbs. per ton of pulp.
Sulphur loss through system 3% or about 8 lbs.
Cooking Acid 2300 U. S. Gallons per ton of pulp.

% Total SO_2 in Cooking Acid	SO_2 in Relief Cu. Ft. S.T.P.	Inert gases in Relief Cu. Ft. S.T.P.	Average SO_2 in Relief %	Inert gases in Relief Cu. Ft. S.T.P.	Average SO_2 in Relief %	Inert gases in Relief Cu. Ft. S.T.P.	Average SO_2 in Relief %
4.00	1581	700	69.3	300	84.0	150	91.3
5.00	2654	700	79.1	300	89.9	150	94.6
6.00	3727	700	84.2	300	92.6	150	96.1
7.00	4800	700	87.2	300	94.1	150	97.0
8:00	5873	700	89.3	300	95.0	150	97.4
9.00	6946	700	90.8	300	95.8	150	97.8
10.00	8019	700	92.0	300	96.4	150	98.1

TABLE XXIII

Sulphur consumption 250 lbs. per ton of pulp.
Sulphur loss through system 8 lbs. per ton of pulp.
Raw acid 1500 U. S. Gallons = 12500 lbs. per ton of pulp.

SO_2 in Return Gas to Acid Plant	Inert Gases Cu. Ft. S.T.P.	Total Gases Cu. Ft. S.T.P.	SO_2 Gas Cu. Ft. S.T.P.	SO_2 Gas Lbs.	Total SO_2 in Raw Acid %	Inert Gases Cu. Ft. S.T.P.	Total Gases Cu. Ft. S.T.P.	SO_2 Gas Cu. Ft. S.T.P.	SO_2 Gas Lbs.	Total SO_2 in Raw Acid %
0	700	700	0	0.0	3.87	150	150	0	0.0	3.87
5	700	736	36	6.4	3.92	150	158	8	1.4	3.88
10	700	778	78	13.9	3.99	150	167	17	3.4	3.90
15	700	824	124	22.2	4.05	150	177	27	4.8	3.92
20	700	875	175	31.3	4.12	150	187	37	6.6	3.93
25	700	934	234	41.8	4.21	150	200	50	8.9	3.95
30	700	1000	300	53.5	4.30	150	214	64	11.4	3.97
35	700	1077	377	67.3	4.41	150	231	81	14.5	3.99
40	700	1167	467	83.4	4.53	150	250	100	17.9	4.01

of both water and air were quite close to the averages of the year; hence the result should be interpreted as those of average conditions.

	Unit I.				Unit II.			
4/6/39 Elapsed Time	% SO_2 + CO_2	Accum. Press.	Gas Flow lb. per hr.	4/6/39 Elapsed Time	% SO_2 + CO_2	Accum. Press.	Gas Flow lb. per hr.
AM							
12:08	79	30	1350	12:15	17	20	0
12:23	77	30	1165	12:30	18	22	318
12:38	17	25	0	12:45	18	26	345
12:53	43	28	804	1:00	18	29	348
1:08	17	30	0	1:15	66	30	1208
1:23	70	30	1071	1:30	68	30	1435
1:38	58	30	921	1:45	69	30	1320
2:10	75	30	1264	2:00	56	30	1495
2:20	80	30	1256	2:45	17	23	0
PM							
3:45	16	29	0	4:05	17	26	0
4:00	70	30	1070	4:23	16	21	0
4:23	70	30	780	4:45	16	27	0
4:38	73	30	385	5:00	17	29	0
4:53	76	30	771	5:15	64	30	710
5:08	70	30	412	5:30	67	30	942
5:23	74	30	780	5:45	67	30	1005
5:38	70	19	319	6:15	17	18	0
5:53	16	—	0	6:30	16	25	0
6:08	16	20	0	6:45	16	29	0
6:23	16	28	0	7:00	65	30	652
				7:10	65	30	808
4/7/39 PM				4/7/39 PM			
12:30	67	30	0	12:20	65	30	1157
12:45	70	30	369	12:38	17	19	0
12:47	70	30	1457	1:15	62	28	300
12:54	70	30	782	1:30	64	30	800
1:10	73	30	1035	1:45	65	30	974
1:23	17	21	0	1:53	65	30	920
1:38	17	25	0	2:00	70	30	920
1:53	17	29	0	2:15	68	30	1100
2:08	71	30	1007	2:30	17	20	0
2:23	67	30	1350	2:45	17	20	0
2:38	67	30	581	3:00	17	26	0
2:53	74	30	390				
3:00	72	30	380				

Acid—Reclaiming Tank 5.50% Total—1.60% Comb. Acid—Accumulator 5.50% Total—1.30% Comb.

Acid—Reclaiming Tank 4.50% Total—1.10% Comb. Acid—Accumulator 5.00% Total—1.00% Comb.

Note: The values shown for the accumulator pressure are taken from the chart records. As all relief except the low pressure relief goes to the accumulator, the greatest flow occurs when the accumulator is up to pressure (30 lbs.) when the automatic valve relieves gas to the reclaiming tank. A gas test of 16-17 per cent SO_2 obtained must represent a reversed flow i.e. from tower gas line to the reclaiming tank.

The acid in the Unit I reclaiming tank tested 5.50 per cent Total—1.60 per cent Comb. SO_2, temperature about 25° C. According to chart XXVIII corresponding gas strength is about 31.5 per cent SO_2. Consequently, the gas leaving the reclaiming tank must be at least approximately H_2O—2.9 per cent, SO_2—30.6 per cent and inerts 66.5 per cent.

The acid in the Unit II reclaiming tank tested 4.50 per cent Total—1.10 per cent Comb. SO_2, temperature about 25° C. According to chart XXVIII corresponding gas strength is about 30 per cent SO_2.

Recalculating the report with the assumption that a gas containing approximately 30 per cent SO_2 leaves the reclaiming tank, the CO_2 content of the gas will vary between 50 and 0 per cent.

These conclusions are born out by further investigations by Mr. Coster on July 11 and 12, 1940.

	% SO_2	% CO_2	% O_2	% N_2 etc.
Gas from Accumulator	56.2	35.8	0.9	7.1
Average temp. 62° C.	46.0	41.3	1.1	11.6
Accumulator Acid	56.5	31.5	1.2	10.8
5.30% T.—1.15% Comb. SO_2	46.0	36.5	2.1	15.4
	53.0	32.2	1.0	15.8
	46.3	40.0	1.0	12.0
Average	50.7	36.1	1.2	12.0

According to chart XXXII gas leaving minimum 42.5% SO_2 and according to chart XXXIII gas leaving minimum 54.0% SO_2.

	% SO_2	% CO_2	% O_2	% N_2 etc.
Gas from Low Pressure	97.0	2.0	0.2	0.8
Relief	95.2	2.8	0.0	2.0
Average temp. 98° C.	94.0	2.1	0.9	3.0
Average	95.4	2.3	0.4	1.9
Gas from Reclaiming Tank	32.5	39.5	2.0	26.0
Average temp. 30° C.	32.0	40.3	2.5	25.2
Reclaiming Tank Acid	31.0	44.8	1.7	22.5
4.25% T.—1.20% Comb. SO_2	37.0	35.2	2.1	25.7
	27.5	46.6	1.5	24.4
Average	32.0	41.4	1.9	24.7

According to chart XXIX gas leaving minimum 27.5% SO_2.

Note: In taking samples on the main gasline to the reclaiming tanks and from the digester the gas sample

was run through a cooler. In testing on the line from the reclaiming tanks, the sample was taken directly.

Mr. Coster in his report points out the difficulties encountered in making these tests, which is understandable to anyone familiar with digester operation. The tests were carried out as carefully as possible but are not conclusively correct. Nitrogen, etc. were obtained by difference. All determinations were made at approximately 25° C. The gas was saturated with water vapor.

These reports are extremely interetsing as they conclusively prove the presence of a large amount of CO_2 in the digester relief and that, even in a six digester hookup, the gas flow to the reclaiming system and acid towers is far from uniform.

TABLE XXIV

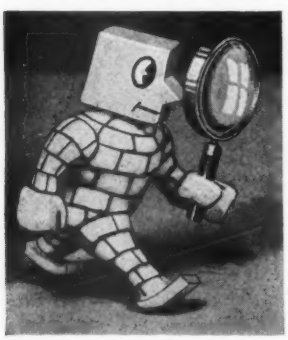
Sulphur consumption 250 lbs. per ton of pulp.
Sulphur loss through system 8 lbs. per ton of pulp.
Burner Gas 17% SO_2 Dry basis.
Raw acid 1500 U. S. Gallons = 12500 lbs. per ton of pulp.

SO_2 in Return Gas to Plant %	Burner Gas Cu. Ft. S.T.P.	Gas Return Cu. Ft. S.T.P.	Total Gas to Towers Cu. Ft. S.T.P.	SO_2 Gas Cu. Ft. S.T.P.	SO_2 in Gas to Towers %	Total SO_2 in Raw Acid %	Comb. SO_2 Temp. 25° C. %	Comb. SO_2 Temp. 30° C. %	Comb. SO_2 Temp 35° C %
0	16470	700	17170	2800	16.3	3.87	1.60	1.65	1.67
5	16470	736	17206	2836	16.5	3.92	1.61	1.66	1.69
10	16470	778	17248	2878	16.7	3.99	1.63	1.68	1.71
15	16470	824	17294	2924	16.9	4.05	1.65	1.70	1.74
20	16470	875	17345	2975	17.1	4.12	1.68	1.73	1.77
25	16470	934	17404	3034	17.4	4.21	1.71	1.76	1.80
30	16470	1000	17470	3100	17.7	4.30	1.74	1.80	1.84
35	16470	1077	17547	3177	18.1	4.41	1.77	1.83	1.88
40	16470	1167	17637	3267	18.5	4.53	1.81	1.87	1.92

Finishes Second In Baseball League

● The baseball team of the Puget Sound Pulp and Timber Company finished in second place as runner-up for the Bellingham (Wash.) City League Championship. Getting off to a bad start, the team under the managership of Ed Scribner, steam plant fireman, worked its way up to top position, which position it held until the draft took away the pitching staff.

The type of ball played in the City League is considered the highest in Whatcom County, and the three times a week schedule gave baseball lovers a summer full of good ball. With the wind-up of baseball, Scribner now turns his talents to managing the pulp mill bowling team entered in the Bellingham Industrial League.



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Eulo Fairbanks Died On Aug. 19

● Death removed one of Puget Sound Pulp and Timber Company's oldest employees when Eulo Fairbanks, acid maker for the company since 1928, and an employee that helped to build the original two-digester mill in 1926, passed away on August 19.

Mr. Fairbanks, a native of Ohio, and later an oil driller in Cleveland, Oklahoma, was 65 years at his passing. He had been in excellent health until but two months before his death, at which time he suffered a heart attack.

Picnic On Clackamas

● The Hawley Pulp & Paper Company executives and foremen held their summer stag picnic at Carver, Ore., on the Clackamas River on August 5. Louis Smith, of the converting department, was chairman of the festivities.

John H. Smith, president and general manager, and Carl E. Braun, vice-president and mill manager, were on hand, as usual. About 60 men attended.

Sulphite Pulp Shipped

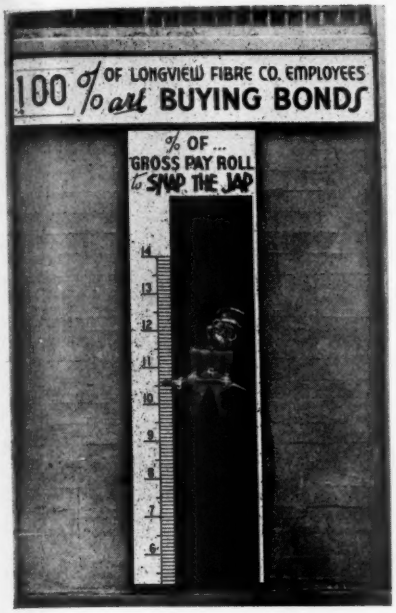
● British Columbia paper mills have not shipped newsprint to South America in substantial volume since Powell River Company abandoned that field in favor of British empire and markets closer to home more than a decade ago, but in recent weeks exports of sulphite pulp to South America as well as to Mexico have been resumed.

Powell River Company, for instance, has shipped some pulp to Mexico and has orders for some 500 tons of pulp for Brazil.

Donaldson Tours Coast

● W. H. "Bill" Donaldson, secretary of Perkins, Goodwin Company of 30 Rockefeller Plaza, New York City, has been on a Pacific Coast tour conferring with pulp and paper company executives.

He was in Vancouver, B. C., Seattle and Portland and other cities in that region during the first couple weeks of September.



A NEATLY GARROTED TOJO hangs on this sign at the LONGVIEW FIBRE COMPANY, Longview, Wash., showing how well the mill employes there are doing in buying war bonds.

At the end of August 10.8 per cent of mill's gross payroll was going into bonds, a slightly higher proportion than shown when this picture was taken. One hundred per cent of the employees were buying bonds.

Bellingham Man's Fall Is Fatal

● Employees of the Puget Sound Pulp & Timber Company were shocked recently to learn of the accidental death of Dietrich Bengen, employee of the company for the past ten years, who left the company only a few months ago to operate his 120-acre dairy farm just north of Bellingham, Wash. Mr. Bengen fell while picking cherries, and the injuries sustained at that time caused his death in a Bellingham hospital, July 11.

He had worked at various jobs in the plant and was a back-tender at the time of severing connections with the pulp mill. Several employees of the company, together with neighbors, assisted Mr. Bengen's family by harvesting 80 acres of hay which were ripening at the time of his death. Mr. Bengen left his widow, Mrs. Pearl Bengen and three minor children. In his youth he was active in athletic circles at high school and Bellingham Normal.

Relieves Wood Shortage

Powell River Company is helping to relieve the wood fuel shortage in Vancouver, Wash., by arranging a contract whereby it will supply at least 16,000 cords of wood to employees of the Burrard Dry Dock, Ltd., shipbuilders. The paper company is financing the contract without profit. Donkey engines and power saws will be used by the wood-cutting gangs. Fir, alder and hemlock not suitable for pulping or lumber will be shipped on barges that carry hogged fuel on the northbound run.

Cooperating With Schools Helps In Labor Problem

● With the reopening of schools everywhere in this land of free education and with most far-sighted Americans anxious that their boys and girls continue in school despite the war, a number of pulp and paper mills have cooperated closely with the educational authorities of their communities to achieve this goal.

They have made arrangements with school boards, so the boys and girls may get an education and at the same time earn some money part time.

The Crown Zellerbach mill at Camas, Wash., is in example of a mill which has arranged with the schools so it is able to retain the services of about 100 youngsters who were working in the mill during the summer. Some of the youngsters are working in the mill in the forenoon and going to school in the afternoon. Others have a reserved schedule. On the eve of school opening, the mill personnel department expected to lose about 60 youngsters whose work could not be so arranged.

Last month this magazine reported how the Fibreboard Inc., division at Port Angeles, Wash., cooperated with school authorities in checking on the youngsters to see that they successfully keep up their scholastic work, giving them time off when necessary for study.

The month of September is a critical one in the relations with schools in many localities. Boys and girls are tempted to quit school or let school work slide, with jobs and money plentiful. On the other hand, the labor shortage may cause a harassed management to unknowingly collaborate with those who play "hookey."

FIELD NOTES

EXERCISE IS GOOD for your fire hose. .

Fire hose, like an automobile tire, deteriorates faster when not in use, than if exercised occasionally. Here is an easy way to keep hose in good working condition, ready for any emergency:

Every 4 months, unreel the hose, put it under nominal water pressure. This helps 'freshen' the rubber, keeps it from cracking. Dry the fabric thoroughly before re-reeling, and re-fold the hose in different places to insure longest possible life.

Exercise your hose this week, then mark your calendar for another exercising 4 months from now. You'll be sure of having better fire hose if you follow through regularly on this plan.

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Ontario Timber Land Contracts Cancelled

● Fulfilling an election campaign promise, the new Drew government in Ontario is cancelling contracts made in 1937 by the previous administration under which companies have held millions of acres of timber land in the Lake Superior region. Premier Drew terms this move as the first step in placing the whole administration of Ontario forest resources under a forest resources commission.

At least seven companies are affected directly. Failure to erect pulp mills on the properties is given as the chief reason for non-fulfilment of the 1937 agreement and the government claims that each contract "was made secretly, without competitive bid of public notice of any kind, contrary to law and proper practice."

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Killam Describes Some "Unconscious" Socialists

Lawrence Killam, president of B. C. Pulp & Paper Company, was the principal speaker at the annual convocation banquet of the University of British Columbia, recently.

Mr. Killam, who was a university professor before taking the chief executive post with the big pulp enterprise, urged the graduates to use their fullest ability and not abuse the freedoms which a democracy afford.

"We are too much inclined to take freedom for granted," he declared. "We don't realize what it means until we are threatened with losing it.

"Anyone who lives in British Columbia and thinks he is not a Socialist is sound asleep. Many benefits have resulted from the growth of Socialism, although in this country it is not growing into what Fascism or Nazism have become. We hope it will grow sanely, helped by constructive criticism."

The B. C. Pulp president commended the trend towards unionization in industry, but condemned the petty jurisdictional disputes that have hampered wartime production.

Tour B. C. Mills

● E. Howard Smith, vice-president of Howard Smith Paper Company, Montreal, and president of the Canadian Pulp & Paper Association, accompanied by A. E. Cadman, secretary of the association, and J. St. Auben, of the Wartime Machine Shop Board, arrived in Vancouver September 7 for a tour of British Columbia pulp and paper mills.

Conchies Protect Forests

Most of the 700 Mennonites and other conscientious objectors to military service who worked in the British Columbia forests on conservation and fire protection work were again available this summer. It had been previously intimated that most of the men would be returned to the prairies for farm labor.

Barking-Chipping Plant To Supply C-Z Mill

● International Pulpwood Supply Company, a subsidiary of Crown Zellerbach Corporation, is planning to establish a barking and chipping plant at Victoria and has made application to erect a conveyor over Harbor Road in Victoria harbor.

The company plans an investment of between $100,000 and $125,000 and about fourteen men will be employed. A location is being acquired on Canadian National Railway property with waterfrontage.

The understanding is that International Pulpwood Supply Company will handle hemlock and spruce slabs and refuse from Victoria sawmills now busy cutting those species for Aero Timber Products, Ltd., and other agencies, and ship the chips by barge across the Straits of Juan de Fuca to the Crown Zellerbach mill in Port Angeles. Most of the logs are supplied by Malahat Logging Company, Cameron Lumber Company and Island Logging Company, all of which are operating in southern Vancouver Island.

International has operated a similar plant at Port Alberni for several years, shipping to Port Angeles.

Powell River Marks 32nd Anniversary

● Powell River Company, biggest newsprint producer on the Pacific coast, is also one of the oldest operators in the industry in the west. Thirty-two years ago last August the company drew up its first newsprint contracts to start an association with publishing communities that has endured and grown ever since.

The anniversary was marked in the current issue of the Powell River Digester, the bright little magazine issued by the company for distribution to employees and customers. The Digester recalls that the newsprint industry was launched at Powell River with some trepidation owing to previous failures of various companies.

"There had been several abortive and, frankly, not too sincere attempts to start this new industry in British Columbia," the Digester recalls.

"The real history of the pulp and paper industry in British Columbia begins with the completion of the stable and permanent newsprint plant at Powell River in the fall of 1911. In April, 1912, the first ton of newsprint ever manufactured in Western Canada was aboat a waiting freighter on the first lap of its journey to the publishing houses."

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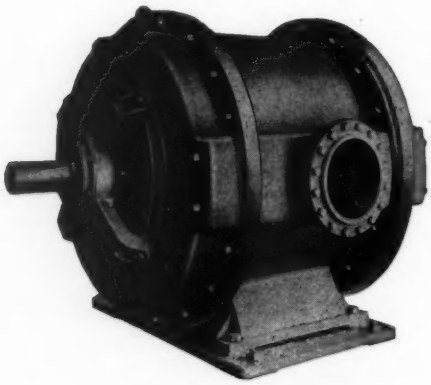

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